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RAIN

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COMMUNICATION

The Network Nation, Starr Roxanne Hiltz and Murray Turoof, 1978, 528 pp., \$17.50 from:

Addison-Wesley Publishing Co.
Reading, Massachusetts 01867

It strikes me that I see very little discussion, interest or tough analysis of alternative communication technologies. A careful analysis of communication systems has not taken hold among groups working in the area of appropriate technology, even though an analysis of the activities and budgets of these groups would probably reveal a large expenditure for what one could inter-

pret as communication goals, for example: education, publications, information exchange, making contact with resource persons, mail, phone, handling referrals, maintaining an active group of participants (a board, for example), and participating in interest-based networks.

The analysis of communication systems surely must include the entire range, from personal contact to scenarios of an electronically orchestrated global village. There are discussions along the way that we are involved in daily, and decisions that have to be made that include cost/benefit analysis, social impact and resource allocation.

The Network Nation is an important contribution to an intelligent conversation about communication systems. The book focuses on computer-aided conferencing systems such as EIES, the Electronic Information Exchange System, of which Hiltz and Turoof are prime movers.

EIES uses a central computer at the New Jersey Institute of Technology to structure, store and process written communication among individuals, and groups of individuals who enter type-written messages through terminals located in their homes or offices. There

at the same time they can send one line messages directly to each other; otherwise a message can be sent and the recipient will be told there is a message waiting whenever they next log on (phone up the EIES computer from their terminal).

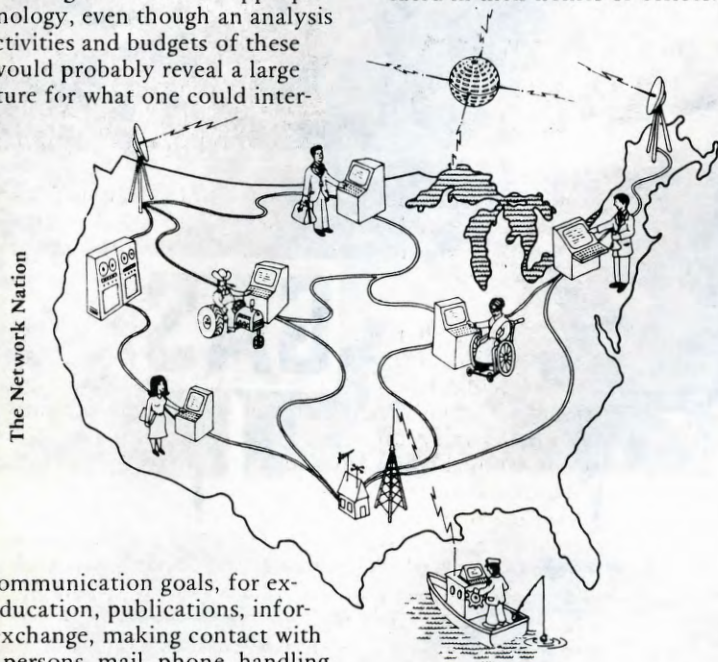
Groups on EIES serve a variety of functions. Communication that goes between members can be read by all other participants in the conference; but in order for an individual on the EIES system to participate in the conference, they must submit a request to the designated conference coordinator.

In some cases the groups are just a loose collection of individuals all interested in some particular subject area. Others have used EIES to coordinate research, and communicate between branch offices. For example, the World Symposium on Humanity used EIES to coordinate its three-site conference in April.

The wide range of individuals presently on EIES is testimony to its unique capability as a catalyst for restructuring social and information networks. The system allows one to remain in social and information networks of one's own choosing (by forming or becoming a member of certain groups—conferences), while opening up possible channels of communication through a private message mechanism. One can also locate descriptions of all individuals, and in that way find kindred souls, contacts, resource persons, etc.

LEGITECH is an interesting sub-part of EIES. Legislative researchers in 25 states and resource-reviewers in a like number of federal agencies and other resource organizations use EIES to exchange inquiries, response and leads about scientific and technical matters of interest to state legislatures.

There are many delicately wrought software programs on EIES that allow individuals and groups to, for example,



are presently some 600 members and 45 groups.

On EIES an individual can send a message to any other individual on the system. If both individuals are on-line

edit and distribute drafts of research papers, vote on issues, retrieve previous messages, structure comments in a conference in order to distribute a summary of the conference.

The Network Nation describes in exhaustive detail the experiences of the EIES system. But the book is not simply the advocacy of a particular communication system. The discussions that focus on social networks, the impact of communication technology on class differences, equal opportunity, and the careful weighing of alternatives in light of social, economic and resource allocation considerations is an important contribution.

Unlike a purely speculative tome on the future of communications, *The Network Nation* is based on currently available technologies. The book is a wealth of information about recent experimental models, and developments in electronic communication technology. —SJ

National Self Help Resource Center
2000 S Street, N.W.
Washington, DC 20009

NSHRC is involved in a variety of community, communication and information projects. Recently they have coordinated an experimental program to test the use of community colleges as community based resource centers that could improve the capacity for citizen participation. They are a key source

of information about resource centers. *Network Notes*, their newsletter, recently published two useful resource lists, one on magazines and newsletters for persons interested in community/neighborhood issues, the other outlining some national groups working on issues of community development, self-help communication networks. —SJ

***The Journal of Alternative Human Services*, quarterly, \$8/year individuals from:**

Community Congress of San Diego
1172 Morena Blvd.
San Diego, CA 92110

The journal is one of my primary resources for information about innovative social services, communication and community building model projects. The *Human Services* in the title hardly does justice to the wide range of information and articles. The most recent issue had articles on neighborhood organizing, alternative funding, and the office of tomorrow (use of computer-aided communication systems). The "Information Exchange" section is a well-done short review section similar to *Rain*. In the most recent issue some resources covered included: Robin Hood Was Right: A Guide to Giving Your Money for Social Change; Consumers Guide to Nonsexist Therapy; Just Economics; Aegis—magazine on ending violence against women; Bulletin of the National Center for Educational Brokering. —SJ

AFIPS Washington Report
American Federation of Information Processing Societies
1815 N. Lynn Street, suite 805
Arlington, VA 22209

One of the bargains of the month. A free weekly newsletter that summarizes major legislative action related to information access, information and communication technology, regulations, privacy, freedom of information. Extensive calendar of legislative events. —SJ

***The Journal of Community Communications*, quarterly, \$6/yr. from:**
P.O. Box 996
Berkeley, CA 94703

One of the best (and maybe the only) sources of information on experimental community communication and information systems. Some of the staff traces back to the days of the bold Community Memory experiment in the Bay Area, when computer terminals were placed in public places (The Whole Earth Truck Store, for example), allowing persons to exchange information in an electronic bulletin board style.

The Journal has good in-depth articles that explore political, social and technical aspects of communications. Lots of information on recent model experiments. —SJ



GOLD MINES

FBI Collusion in Madison Anti-War Bombing

Details on FBI foreknowledge and presence at the Physics Building anti-war bombing that resulted in the only fatality caused by anti-Vietnam War actions, and the government's reasons for allowing it to happen—in the January 1979 *Mother Jones* (\$8.88/yr. or \$1.50/copy, Box 2482, Boulder, CO 80322). Another damaging piece of evidence about Uncle Sam, Dick and J. Edgar's true roles in those times. —TB

Anti-Nuclear Civil Rights Repression in Germany

Another article in the same excellent January 1979 *Mother Jones* gives a chilling account of current fascist repression in Germany—disbarring any lawyer who defends an anti-nuclear or civil rights case, interrogation and dismissal of workers for "anti-government feelings," silencing of opposition newspaper reporting. Worth some heavy thinking. —TB

Defensive Arts

I usually don't get much interested in discussions of Karate, Tai-Chi, Aikido and other Asian defensive arts, but George Leonard's article, "Mastering Aikido" in the April '79 *New Age* (\$12/yr. or \$1.50/copy, 32 Station St., Brookline, MA 02146) had a wonderful gripping feeling to it that really con-

veyed the psychic magic of sureness and centeredness, where the hand, heart and head together are quicker than the eye, and where what is overcome is more than another person's aggression. —TB

The Profitable Shortage in Gasoline

In These Times energy articles in their May 30 issue (p. 2 and 12) (\$1 from IIT, 1509 North Milwaukee Ave., Chicago, IL 60622) are enough to fuel a revolt against oil company monopolies and profiteering from rigged shortages. Accounts of tankers unable to unload high test, no-lead gas because all storage tanks were full and gas stations empty because of companies hoarding for higher prices. And Barry Commoner's comment on threats of blackouts if nuclear power plants are shut down: "That's dead wrong. Take the Chicago area, which is more dependent on nuclear power than anywhere in the country: 44 percent of their electricity comes from nuclear power plants. If you jacked up the usage of their non-nuclear plants, which are now operating at only 37 percent of capacity, and brought them up to 57 percent, you could close down four of the seven nuclear plants in Chicago. All the electricity produced by nuclear power plants in the U.S. is just about equal to the excess capacity that the entire system now has." Good fuel to fire up some changes! —TB

\$eeds for Self-Help



by Phil Conti

The evolution of an individual's consciousness over a year is a fascinating process to observe. During the past 12 months I watched several friends change their focus from the techniques of solar water heater construction and intensive gardening to the concepts of community-based economic development. Wanting to share their skills with a broader audience and make a living as well, a neighborhood business was a natural conclusion. Increasing numbers of people are making the connection—that neighborhood-based and controlled enterprises can result in institutions which are more responsive to the community's collective wishes.

A recent Portland conference on neighborhood involvement in economic development attracted a wide range of interest groups. Attending the workshops were solar advocates, business people, community organizers, government workers, church representatives and neighbors. A common problem shared by most participants was acquiring the necessary start-up money. Discussions on leveraging thousands of dollars for community development seemed premature without seed capital. If neighborhoods are to be successful in their bid for economic power, opportunities for obtaining start-up capital must be made available. The Community Development Block Grants (CDBG) program could provide that opportunity.

Currently, the Department of Housing and Urban Development (HUD) distributes \$4 billion annually in CDBG funds to urban cities and counties. Because of their flexible use, block grants can be a good source of seed money for economic development activities. Possible uses of the funds include acquisition of land or a building for housing, operation of a health clinic or weatherization business, payment of a project's administrative costs and purchase of construction equip-

ment. There are two obvious limitations on the use of block grants. The first is statutory requirements that restrict the use of the money to meet the needs of low and moderate income groups. The other is that the city has sole discretion over which proposals receive funding. Traditionally cities have been conservative in their use of CDBG funds. However, as noted in the resource groups listed below, several metropolitan areas are starting to channel block grants to some self-help neighborhood economic programs.

Community development block grants alone will not make a neighborhood self-reliant. Their use should, as Ms. Stone concludes in her manual (*Community Development Block Grants* reviewed in this issue), "be part of a larger community strategy, one that looks beyond an immediate dependence on external help to a self-sufficient future."

RESOURCES:

Community Development Block Grants, A Strategy for Neighborhood Groups, Margaret Stone, 1978, \$3.50 for community organizations eligible for legal services, \$7.50 all others, from:

National Economic Development & Law Center
2150 Shattuck Ave.
Berkeley, CA 94704

This is an excellent manual for neighborhood groups who want to participate in the CDBG process. Helpful chapters on researching and reading CDBG forms not only explain the form lines but also how to read between them. Other topics include preparing the proposal, monitoring local government programs and asserting your rights through pre-litigation strategies and lawsuits. All this information is in a very readable text which maintains a vision of a more economically independent community.

An Advocacy Guide to the Community Development Block Grant Program, Clearinghouse Review January Supplement 1979, free to legal services attorneys and paralegals, \$15 to VISTA, students and prison law libraries; \$30 all others from:

National Clearinghouse for Legal Service

500 North Michigan Ave., Suite 1940
Chicago, IL 60611

Clearinghouse Review is a monthly legal publication which frequently reports on community development issues. An overview of the CDBG program is in the January supplement. Of interest to neighborhood groups is a section entitled "Special Provisions for Funding Community Organizations and Community-based Economic Development." Check it out at your local legal services office.

Urban Integrated Community Demonstration Project

This project is designed to enable residents of the Whitaker Neighborhood in Eugene, Oregon, to become more self-reliant in areas of food production, energy, recycling, housing and health. Activities include: collective gardening, composting and food processing; urban agriculture class for the local elementary school; expansion of a local recycling business; cooperative housing; weatherization business; self-help medical program. The purpose is to see how these techniques can be used on an integrated basis in a low-income neighborhood. NCAT has provided planning funds and CDBG monies will be used for acquisition of land and buildings.

Whiteaker Community Council
21 N. Grand
Eugene, OR 97402



Energy Efficient Community Center
Construction of a passive solar heated neighborhood center is scheduled to begin this July in Spokane, WA. The facility will provide day care, health, youth and recycling services. Rents from leased space will pay for 80-90 percent of the administrative and operating expenses. CDBG funds will pay for design and construction costs. For more information, write:

Kathy Reid
West Central Area Community Center
W. 2910 Dean
Spokane, WA 99201

The Neighborhood Resource Project
A coalition of ten Seattle neighborhood and technical assistance groups are coordinating seven community technology projects. Two of the CDBG funded projects are a furniture repair and recycling program and an inner-city produce market. If you would like more information contact:

Lucy Gorham
The Neighborhood Technology
Coalition
909 Fourth Ave.
Seattle, WA 98104

CDBG Monitoring Program

The Working Group for Community Development Reform monitors CDBG for compliance with federal regulations. They have subcontracts with non-profit organizations in 22 locations to monitor their local programs. This self-help arrangement allows local citizen groups the opportunity to develop additional familiarity with their CDBG process. In return the Working Group is able to amass data on the local level for evaluation. Their newsletter, *The CD Citizen*, contains updates on the progress of the project. Write:

Working Group for CD Reform
1000 Wisconsin, N.W.
Washington, DC 20007

Opportunity Funding Corp. (OFC), a non-profit corporation, guarantees loans made by traditional lenders to businesses located in low-income communities. A 2-1/2 to 5 percent fee is charged to the borrower to cover administrative costs. OFC also provides management services for the Cooperative Assistance Fund (CAF). CAF contains the combined resources of ten foundations, which make investments and loans in poor neighborhoods. To find out more information, write:

Sheila Smith
OFC
2021 K Street N.W.
Suite 701
Washington, DC 20006

The National Economic Development and Law Center

The center publishes the *Economic Development and Law Center Report*, a bi-monthly newsletter which focuses on the legal aspects of community economic development, including updates on CDBG. A selected bibliography on Community Development Corporations (CDCs) was included in the November/December 1978 issue. Besides the newsletter, several excellent how-to manuals have been written to complement the major work of the center, which is to provide legal and planning assistance to CDCs on a project-by-project basis. They can be reached at:

N.E.D. & L.C.
2150 Shattuck Ave.
Berkeley, CA 94704

The Community Investment Fund

The fund serves two needs. First, it offers investors an opportunity to support socially and ecologically responsible enterprises. Secondly, it provides financing for community controlled economic development. A report, *Model for a Community Investment Fund*, outlines the structure and organization of the fund. At this date capital is still being accumulated. For further information contact:

Nathan Gray
Institute for Community Economics
639 Massachusetts Ave.
Cambridge, MA 02139

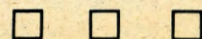
Community Economics, Inc., a non-profit organization, primarily provides technical assistance in the form of economic analysis and financial feasibility studies in alternative housing ownership (e.g. cooperatives). They are also researching alternative investment possibilities for pension funds. Contact:

Chris Webb
Community Economics, Inc.
6529 Telegraph Ave.
Oakland, CA 94601

Center for Community Economic Development

A non-profit organization doing research and providing technical assistance in community-controlled economic development. The center also publishes an information quarterly newsletter. They can be contacted at:

Center for Community Economic Development
639 Massachusetts Ave.
Suite 316
Cambridge, MA 02139



DATA CONTROL DATA CONTROL DATA CONTROL

“THE BIGGEST THING IN SMALLNESS?”

BY TOM BENDER

“Better solutions to many of the basic problems plaguing the nation’s food chain can be obtained by means of the small family farm than can be achieved through the large capital-intensive, fossil-fuel based operation.”

These are not the words of a decentralist, “small is beautiful” advocate but the head of a multi-national corporation, operating in 33 countries, employing more than 45,000 people and receiving revenues last year of over \$2 billion—a corporation that has donned the rhetoric of smallness and is rapidly extending its activities into many areas of “appropriate technology.”

Control Data head Bill Norris is a board member of Appropriate Technology International—the AID-supported international development group whose initial aim to support indigenous development in poor countries has been turned into a \$20 million slush fund for U.S. industries to market their products and services abroad. Control Data has offered financial support to several midwestern a.t. groups working in urban agriculture in return for data developed from their research. They have developed a pilot program for franchising Rural Development Centers that would provide management, technical, advisory and perhaps credit services to small farmers, and have committed several million dollars to their entry into the area of small-scale agriculture, CDC’s Technotec, an international computer-based technology exchange service, has been courting a.t. groups around the world for several years to set up for them both an a.t. and a small farming data base, and CDC’s staff has been quietly omnipresent at all major a.t. and small farm gatherings in the last couple of years.

Attempted corporate entry into these areas is inevitable as their viability becomes more widely recognized, but is obviously bringing a strong reaction from people who recognize that there is not room for livelihood as well as for corporate profits in these areas. Governmental entry into these areas as represented by NCAT, ATI, NSF and DOE programs/non-programs has shown that its true interests and impacts are rarely compatible or of real value to the development of decentralized patterns. Big Business’s challenge is more powerful and even less supportable, but it means that citizen and technology groups must act clearly and competently to both demonstrate convincingly the capabilities of our dreams while exposing the true intentions and implications of corporate initiatives.

The central focus of CDC’s small farming initiative appears to be their proposed Rural Development Centers. Through these centers CDC would provide a number of services: acquisition of large (1000 acre) acreages and resale in 80-100 acre blocks, assistance in organization of centralized purchasing of essential products and services, obtaining credit, establishment of local marketing structures, smaller processing units

and qualifying for government programs. The farmers may be offered computer-based instruction packages as well as CDC’s main interest, a “computer optimized package of technology (crop, livestock, fertilizer, energy, equipment, etc.) that is “being developed.”

Concern over CDC’s activities resulted in Gil Friend at CalOAT pulling together information on them and questions as to their implications. In February he sent that information out to more than 100 people and groups to initiate clearer discussion of appropriate actions. Many people’s initial reaction to CDC’s activities had been distrust and resignation, similar to the response that coincided with beginning corporate dominance of solar energy—“They’re not going to go away,” “They will go ahead with or without us, so let’s at least try to assist them to go in good directions.” But the composite picture which came together when Gil pooled the individual fragments of insights and information he got as feedback was quite different. It exposed more clearly CDC’s weaknesses, the implications of their activities, the capabilities of a.t., farm, and community groups to achieve much more without CDC than with them, and confidence in those capabilities: A sample:

“There is a striking similarity in CDC’s actions vis à vis small farm agriculture and the 1950s, 1960s and early 1970s relationships between large development corporations in the so-called “urban renewal” schemes and the citizens of the areas being “renewed.” The corporations were often apparently receptive to community needs and ideas yet they left “vague” or “undecided” or “incomplete” gaps in the planning. The planning process was otherwise extremely well thought out and usually very well articulated, so it seemed strange, in retrospect usually, that these gaps existed. What virtually always transpired was that these gaps and the apparent receptivity to other ideas were enticements to attract or get people and groups to go along with the corporation. Only when it was too late did the community groups realize they had been co-opted for ends in conflict with their own. I would suggest that CDC is using the same tactics.

“The kinds of gaps that CDC has left—e.g. who controls the coordinated marketing effort, and what have they done concerning organizational structures that maximize the farmer’s own responsibility and control—these gaps don’t reflect a lack of understanding of the overall situation; rather they reflect deviousness. These are subtle yet crucial elements to both a realistic a.t. approach, and by their exclusion, an obvious ploy for CDC to gain an economic hold over the farmers.

"I'm sure that CDC must be aware that the problem facing the U.S. farmer is not inadequate technology availability, but rather access to and control of markets, credit, and land and produce prices. If they are sincere about trying to assist the small farmers, why do they propose technology in place of these other more important needs?"

"I can agree with the statement that if something is viable, it should work on the marketplace. However, the marketplace as it currently stands is heavily skewed in favor of larger corporations and processes which take control away from the individual and focus it in fewer and fewer hands. The process CDC offers feeds into this understanding of the marketplace."

"Control Data is not a misnomer. They don't give money away easily, and they will want 'control'."

"CDC is trying to create a system of franchise farms, complete with starting kit, financing, and CDC control of marketing in both directions. . . ."

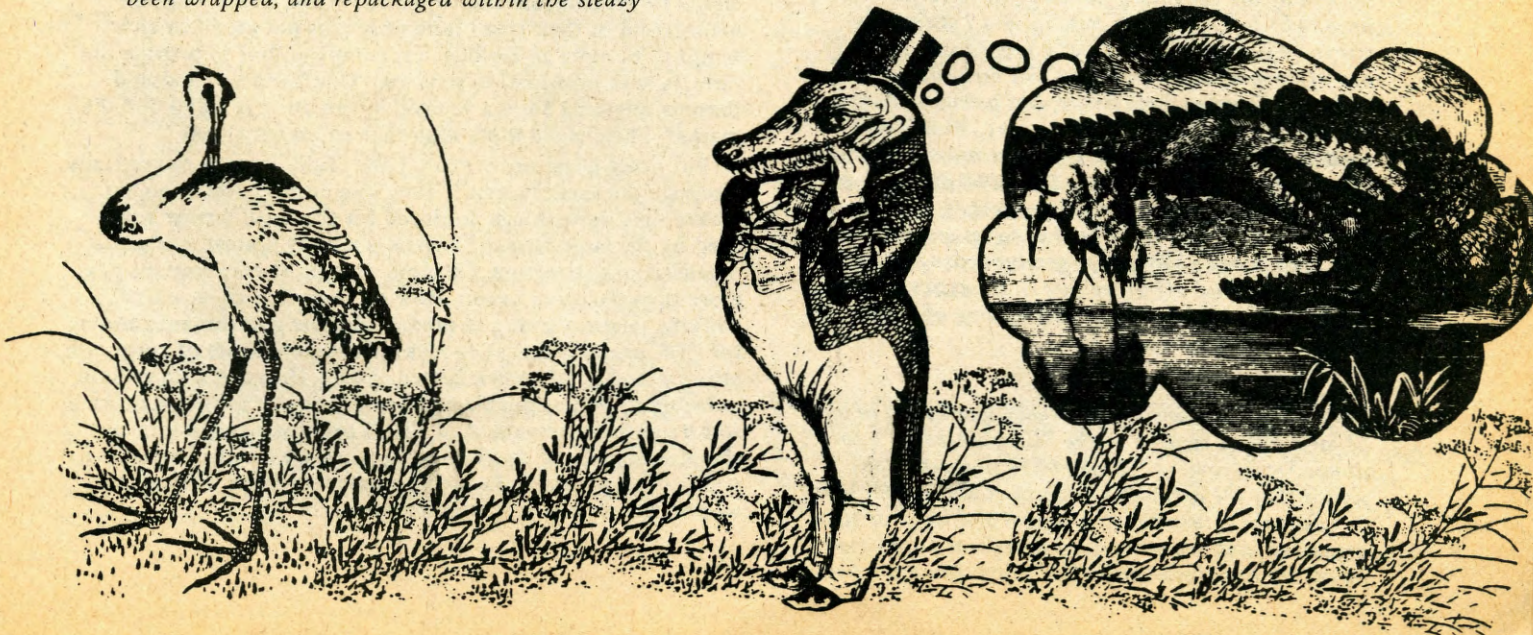
"CDC is a 'notoriously poor company.' Most of their advanced technology, such as the PLATO terminals, were purchased, rather than developed in-house (e.g., PLATO from University of Illinois). They have been unable, through their entire history, to deliver working software. They underbid IBM to get a contract, then leave the user waiting for years to get the bugs out of the software—everybody becomes CDC's R&D lab. Technotec is unsuccessful. Their network is 'backward'—is prone to errors and frequent crashes. CDC can't be dealt with as if invulnerable. . . ."

"Don't forget that other programs which were 'intended' to benefit the small farmer, programs such as price supports and irrigation, came with time to shore up the profitability of the vertically integrated corporations involved with agribusiness. There is absolutely no reason to believe that the implications of an agricultural/a.t. data base, stripped of social context within which these technologies have thus far been wrapped, and repackaged within the sleazy

populism of the CDC proposal, will do anything to forestall the demise which threatens the small farmer in this country."

"In the literature describing Technotec, Control Data makes it quite clear that they want to corner the market on information brokerage. They view information as a commodity which should be sold in a free market, competitive economy. Although they claim that Technotec is merely a means of bringing problems and solutions into interaction with each other, the way the system works keeps CDC firmly in control, and every part of the transaction has its price. There is a charge for listing (\$400 per item per year), and a charge for searching (\$90/hour). Then, even if you find a possible source for the technology you seek, you have to pay a further charge (\$50-\$400 or more) for the name of the source. This last charge, the so-called 'Contact Price' is determined by the subscriber—which encourages subscribers to think of their information as a commodity and to charge what the market will bear. Obviously, the parties in transactions facilitated over such a system will be entrepreneurs, and participation by those who could most benefit by information exchange is excluded. The rich, and the information-rich, get to meet each other in Technotec's computerized cocktail party."

"Interestingly, the Technotec literature also discusses technology transfer in relation to the world population problem: stating that because population will double, 'we will have to double the physical volume of all our existing infrastructures, be they industrial production facilities, social services, communications networks, agricultural production, educational services or housing facilities.' And CDC proposes that existing technology sources use Technotec to transfer (sell) their technologies to the rapidly growing market. In other words, this is a system that perpetuates and facilitates technological colonialism, without addressing the question of why the 'existing infrastructures' still leave 2/3 of the world's people in relative misery. A simple doubling of infrastructures does nothing to change power relationships."



"Many of the 'economies' which they propose are, of course, real needs for small farmers. But to assume that CDC, or any multinational corporation, has the ability to deliver these economies to the producing (or consuming) public is simply to ignore the inequalities at the core of the insurance/credit industry where CDC makes most of its profit. I'm talking about those key concepts like 'pooling of risks' which have long-since gone out the window in favor of 'high profit protectionism.' Said simply, over a lifetime what is a 'reasonable profit' for CDC would be beyond the imaginings of small farmers."

"We have the technological skills available to small farm organizers to far surpass those of CDC. We should not be intimidated by their pretense at technological or managerial expertise. We can put together a producer/consumer controlled information system that both provides maximum leverage in a monopoly market AND promotes cooperative decisions and action to fight that monopoly."

"In discussing the CDC proposition with a group of farmers this morning, not a one of them bought the argument that this kind of approach would help them AND their neighbors survive. And THAT is the political question!"

"This project entirely bypasses the issue of fair pricing for farm products. CDC is focusing their attention and ours on technology as a solution to young farmer, small farm problems. This is the same solution that is always brought up by business as a way to deal with problems of the 'Have-nots'—poverty, hunger, resource depletion, etc."

"What intrigues me is the corporate strategy and long-term planning horizon that seems to be implicit in these moves. I think they envision, not the demise of agribusiness (rather the stabilization of agribusinessmen—large scale food processing and marketing on a more socially sustainable base); instead, the demise of the large farm operation component of agribusiness. Several of the corporate farmers (for example, Tenneco, which ICCR, Mark Ritchie and I studied intensively in 1976) have already moved substantially out of farming their own land and into sub-contracted or tenant farming. Less hassle, less public visibility, more profit. In its own perverse way, Wall Street shadows Wendell Berry: larger, even more centralized farms (above the 1,000 acre, \$500,000 average) are just not sustainable in the credit markets of the 1980s. CDC knows what kind of loans are most reliable. The social objective of getting more people back on the land (and off of welfare in the cities) just happens to coincide with an astute reading of longer-term economic necessity."

"The CDC programs are especially interesting in light of farm policy reports of the 'Committee on Economic Development.' Their 1964 statement observed that the agricultural sector could not support an adequate return to both capital and labor as then organized, and recommended that farm population be cut by one-third within five years through a policy

of enforcing low farm prices. Their 1974 farm policy report observed the relative success that came from following their program, identified a need to stabilize the decline of the small farm sector, and called for a program of direct welfare/subsidy payments to the lower three-fourths of the farm population."

What are CDC's real intentions and their past record? Although ultimate intentions may never be known, their more immediate plans were discussed in a meeting with small farm/a.t. people in April. Although originally a computer company, CDC now gets 60 percent of its profits from credit operations, which have expanded from an initial lucrative program to provide car insurance for ex-cons. CDC has refined the "social responsibility" corporate public relations activities of past years into an ability to focus on small and disadvantaged areas where people are incapable of shopping for alternatives, and set things up so it can quite profitably provide those services. As their 1978 Social Responsibility Report states, "The major problems of our society are massive, and massive resources are required for their solution. The best approach is to view them with the strategy in mind that they can be profitable business opportunities with an appropriate sharing of cost between business and government." Restated, that says you can make a lot of money from government subsidies and appear to be solving society's problems as well.

CDC is attempting to parlay its "social responsibility" projects into a coalition of support for their small farm project from church groups, farmers unions, major agribusiness firms, banks and insurance companies, USDA extension, community development organizations and the federal government. They have already invested three quarters of a million dollars in grants to major universities for supportive research for its small farm problem—with the hope of getting the federal government to match their funds on a 10 to 1 basis. If successful, the consortium would similarly make available even more funds from the other coalition members. A "coalition" in this case can possibly be defined as using other people's names, dollars and work while you get the profits.

When pressed as to what CDC considered a "reasonable" profit for its activities, it admitted that in one area at least, bridge financing for farm land purchase, 18-20 percent profit would be "reasonable and expected." CDC claims that the mainstream of their small farm project is not credit or an attempt to become an agribusiness company, but to provide the farmers with information services. "One hundred thousand farmers spending \$500 a year on information is a \$50,000,000 market. They spend more than that on crazier things."

But other questions remain. CDC "fully intends to vertically integrate the small farmer." They also admit "you've got to realize that these things produced for the small farmer will be used by the large farmer." Norris is rabidly against non-profit organizations (asserting, I assume, that most corporations pay more than phantom taxes). How do they view co-ops, CDC's working relation with non-profits, and the government funding for CDC projects that they seek? Their statements of corporate ethics sound good—much better, in fact, than the \$4.6 million in bribes or "questionable payments" they've admitted making to foreign governments. And CDC's proposals are to improve the productivity of small farmers, when we clearly know that will depress prices, make credit repayment more difficult and worsen the problems it attempts to solve.

Another curiosity is how smoothly CDC's small-farm activities seem to mesh with the 1974 proposals of the Committee on Economic Development—the pro-Big Business group whose earlier programs were successfully implemented through the federal government, resulting in more than 2.2 million farmers losing their jobs and lifetime investments. Their current pitch is to get government welfare to keep small farmers on the farm and out of the cities (perhaps that's where CDC's profit money will come from), so the small farmers can provide cheap labor-intensive inputs to agribusiness but lose their independence and political clout. It all becomes less curious when you find out that one of the CDC Board of Directors was on the CED committee that formulated their current proposals.

More basic than these questions concerning CDC are those concerning corporate activity in these areas in general. It has become clear from analysis of CED documents and subsequent government actions that our agricultural problems by and large have been the result of carefully developed and successfully implemented policies to increase corporate profits. Likewise, current proposals for "solving" present farm problems are only attempts to repaint the problems to make possible even further profiteering. Regardless of Control Data's intentions, any provider of information services to farmers would be difficult to keep from establishing profitable relations with agribusiness equipment suppliers, agribusiness food processors, credit suppliers, etc. If CDC won't do it, someone else will step in who will. The mere fact of some small farmers having a "corporate information and management service" would make credit access for other farmers without such (good or bogus) services more difficult and push them into similar corporate ties.

The inevitable evolution of such a system is into franchise farming, where the farmer takes the risks and the corporation takes the profits. Tenneco switched from direct farming to franchise farming to let someone else provide the dollars and take the risks. MacDonald's did the same with hamburgers. Then when the risk was gone, they began to take over the more profitable franchises themselves.

It is necessary to remember that there are many levels where changes work simultaneously—but to frequently different ends. Information services to farmers may help them (questionable in this case) but also help someone else towards somewhat different ends. In addition to the likelihood of franchise farms, CDC admittedly looks at the international farm market as the most lucrative outlet for the data they hope to assemble from U.S. small farmers. They also proudly announced to us a recent \$300,000 contract with the Venezuelan government for improving peasant nutrition. CDC would provide satellite monitoring of weather, crop conditions, etc., which they also provide to Russia, China, the U.S. and other countries. But centralized knowledge of such information makes meddling in inter-seasonal farm futures a profitable lure—a northern hemisphere crop failure can provide an extremely profitable market for reverse-season southern hemisphere crops. The tendency then would be to orient Venezuela's agriculture to export markets, which would likely worsen the nutrition level in the country as much as it would fatten the pocketbooks of exporters. These games are nothing new, of course—while you watch TV, the networks are selling your presence to advertisers. And while you enjoy yourself at Disneyland, their computers are monitoring and analyzing what makes you laugh, and cry, and pay. Is there reason to support these things?

These glimpses into corporate strategies in agriculture suggest other disturbing possibilities. A suggestion that the services Control Data proposes to sell to farmers would more aptly be provided by the extension services brought out a suspicion that *they* would be the next likely public "problem" to be solved by corporate takeover and our tax dollars. Then the Post Office, Social Security . . .

We need to look at and deal with the corporate causes of our problems rather than merely their proposed "solutions," to restructure those systems for socially viable operation rather than operation that distorts the system to maximize the profit siphoned off at one point, and learn to look through the masks of rhetoric we so easily have been fooled by in the past. If farm prices, market and credit access are the problems, we need to focus on getting those things changed to resolve the problems and remove the opportunity for self-serving corporate "solutions." How we learn to respond to these corporate initiatives will strongly affect the future direction of development in this country.

CDC knows they're not dealing with an easy win. They know that lying to us will boomerang as it did at Three Mile Island and innumerable other cases where corporate deceit has failed. It was clear in our meeting that their staff was instructed to be scrupulously honest with us, even when it hurt, but never, of course, to volunteer, and always to divert when possible. A coordinated effort is continuing to examine CDC—interesting new data on their South African activities has just been uncovered. Detailed proposals for decentralized computer networking are being developed. Discussion on appropriate actions are taking place at farm and a.t. conferences; information is being spread through numerous journals and newsletters.

Resources

The Loss of Our Family Farms: Inevitable Results or Conscious Policy, Mark Ritchie, 1979, \$2.50 from:

Earthwork
3410 19th St.
San Francisco, CA 94110

An illuminating analysis of the farm policy recommendations of the Committee for Economic Development that forced 2.2 million farmers out of agriculture, how they have been enacted by the same people—now wearing the hats of the federal government—without public debate of alternatives, and what their present proposals are.

Control Data, Control Data, Control Data, Control Data, A Look at the Small Farm and Appropriate Technology Programs of Control Data, Gil Friend, 1979, 8 pp., 50¢, bulk rates upon request from:

Agribusiness Accountability Publications
P.O. Box 31331
San Francisco, CA 94131

A discussion paper on the issues focusing on Control Data, including background from Gil's earlier memos, a synopsis of the issues involved, substance and evaluation of meetings with Control Data, and an exploration of responses to CDC initiatives, user-controlled systems, local actions, etc. □□□□

A little homework will do wonders for Rain readers before delving into this eye-opening exploration. That is—if you haven't done so already—go back and skim through "Mine the Trash Cans—Not the Land" in our November 1978 issue. Written by the members of the Oregon Appropriate Technology consulting group, including Dan Knapp, it is easily our most requested back article. It is also a real revelation on how high-tech, mechanized resource recovery systems—like the dinosaur that lies idle in Lane County, Oregon—can be outperformed and outclassed by simple, labor-intensive hand-sorting systems that highgrade valuable metals out of the swelling solid waste stream. Turning Waste Into Wealth, Part I, is Dan's broader indictment of this country's Waste Establishment—from the tunnelvision language it uses to create arbitrary divisions between liquid and solid wastes, forestalling the development of alternatives, to its anal compulsion to create totally new toxic waste problems out of the old ones it can't seem to solve. But just like the whole energy question, waste reality is changing very quickly. Many recycling microeconomies are already on line and working well—with even less subsidization than the solar alternative has enjoyed. It's entirely feasible that a larger recycling economy can pay its way. First, however, some barriers must come down. . . . In the August/September Rain, Part II of Dan's article, How It Could Happen, will scope out some principles for organizing Effective Recycling Behavior in neighborhoods, successful examples and places to plug into for waste activism. It's been good working with Dan to pull this article together. I'm convinced that in an ecologically based society garbage-people would occupy a most honored station.

For further information, you can contact Dan at OAT, P.O. Box 1525, Eugene, Oregon 97440. - Steven Ames

I. Why It Isn't Happening

Waste is the opposite of wealth; it is the residue left over after value has been extracted; it is nullity, a void. . . . Consume, waste, walk away, forget. This process is structured into our habits and our lives. It is The Way Things Are Done.

Anyone who has stood, as I have, through the long hours of a high-volume day at the dump, handing out informational leaflets, must conclude that it is a public spectacle, a massive ritual—dare I say it?—a deliberate flaunting on many levels of conspicuous wealth, real or imagined, temporary or permanent, paid for or not.

"Spotting loads" was a function we in Lane County's one-time Office of Appropriate Technology decided was necessary to maximize *Effective Recycling Behavior* in the early stages of our Metals Recovery Demonstration Project. One of our "spotters" would shepherd willing members of the public to separate desirable metals out of their mixed loads and drop them off at a metals recovery area. It worked! We made \$2400 in hard cash—not free grant bucks—for the deficit-ridden county Solid Waste Division in our first (and only) ten weeks of operation, while segregating, sorting and marketing 30,000 pounds of high-grade elemental copper, brass, aluminum and steel at the Glenwood Solid Waste Center. In the process we doubled the volume of metals recycled through the county's metals operation.¹

The success of this *highgrading* project, ironically, is also one of the reasons we were retired into involuntary unemployment by a county committed to the construction of a high-tech, failure-prone facility for centralized resource recovery. The highgrading project we designed is still going on—albeit in a crippled, inefficient form—but it now pays the salary of the former director of the Division of Solid Waste, who bailed out

of the county's ill-fated experiment in garbage grinding before its final collapse, and into the arms of the largest private garbage-hauling contractor in the area. Casting a little light on such paradoxical behavior is one of the tasks of this article.

Waste Knots

The spotter function was a real education in value. The thing that still haunts me the most is the occasional boxes I saw bearing assorted bottles of *biocides*—the kind you used to buy in the supermarket and now banned by the Environmental Protection Agency because they contained dioxins—all nearly



full. The people who were dumping these boxes of liquid poisons thought they were doing a good thing: they were organic growers who had no use for pesticides and wanted to remove them from the homes they had moved into. And so these undesirables were intentionally consigned to the tender care of the Division of Solid Waste, not unlike the 30-gallon herbicide barrels someone tried to recycle through the metals recovery station one day, clearly labelled: **DESTROY BY BURYING IN A SAFE PLACE.**

What would happen next, I knew too well, was that some of the bottles would break after being thrown ten feet into the bottom of the pit, leaking their contents into the paper, food, wood, dirt and general disorder contained down there. The remainder would likely not survive the Terex tractor/compactor's inexorable push to the end of the pit, or the second drop down into the big White live-bottom transfer trucks that haul the well-mixed refuse to the county's new, experimental garbage mountain rising on the slopes of Short Mountain, whose collected waters—including small quantities of the *leachate* that has started squishing out of the rotten pile—drain down into Camas Swale, out into the south fork of the Willamette River, and back through Eugene on their way out to the Pacific Ocean. What do you think? Is Short Mountain a safe place for these biocides and their containers?

Salvage? Just Try To . . .

Here is another telling scene I witnessed from the catwalk at the end of the transfer pit at Glenwood: A woman was unloading two good, but old-fashioned, doors from her car. Next to her, a young man had just completed throwing his load into the pit, was straightening up, and saw those doors about to go

over. Obviously, he wanted to ask her for them, but was indecisive. Chances are she would have given the doors to him, surprised that anyone would want them, but all the same glad to avoid the waste. But he didn't get the words out in time. The doors went down.

In fact, bound and determined to run its disposal operations efficiently, the Solid Waste Division can get downright mean when well-intentioned recyclers and other rule-breakers try to salvage valuable materials on their way to the pits. In a great many ways its purpose is to explicitly discourage salvage in favor of disposal. The designs invested in—like those at Glenwood Solid Waste Center and the rural sites, at Short



Turning Waste into Wealth

By Dan Knapp

Mountain and back through a succession of landfills—amount to an increasingly mechanized and centralized disposal system. This is what the fancy words Solid Waste Management reduce to in practice. Yet disposal is a myth. When you dispose of something, it still goes someplace. A wastebasket, a toilet, a drop box, a sewerline, a landfill, even an incinerator—these are places. Things disposed of continue to exist—and continue to matter.

Manic Disposal: End of the Landfill Era

Here are some national trend data on garbage, so you can see that our county is hardly alone in the mania for "disposal":

- The total volume of solid waste from mining, agricultural, municipal, industrial and sewage treatment activities is at least 2.8 billion tons a year and could be as much as 4 billion tons. This volume is increasing at a rate five times greater than the country's population.

- Municipal solid waste—the most difficult category of waste to manage—is the fourth-largest type by volume and increasing by 8 percent annually.

- In urban areas where approximately 74 percent of the total population now lives, solid waste has doubled in volume in the last twenty years. While some 90 percent of the nation's waste is disposed of on the land, nearly half of all major cities will exhaust their landfill capacity within five years.

- Applying the current \$27 per ton collection and disposal costs to our present waste volume, the annual national cost for solid waste management is about \$7.8 billion, the third largest local expenditure funded from local revenues. If the 1985 projected costs of \$50 per ton holds true, the fiscal impact of waste management on local government will be devastating.

- One great advantage of biological nutrient recycling over incineration schemes is that it can be done in smaller, more decentralized facilities located closer to the source of waste generation. This, inherently, is more efficient—especially when a high-quality end product and effective public education increase public acceptance and use of the humus and other forms of high-grade stored energy that are produced from the organic wastes.

- It is common practice to dispose of toxic materials at disposal sites not designed for hazardous waste disposal. Pits, ponds, and lagoons are often used for long-term storage or permanent disposal of liquid and hazardous wastes, and simple roadside disposal of hazardous wastes occurs as well. Although a large portion of buried solid waste is biodegradable, a small but significant portion of our waste volume—37 million tons—is extremely dangerous and capable of causing virtually permanent damage to our environment.²

Caught in the Act

Waste planners will tell you that nothing less than a system for disposing of the *total* volume of mixed waste is worthy of their attention. In sewage treatment circles, this is called the "baseline alternative," and it is the bottom line when it gets down to what the public's money is used to finance. Typically, all other smaller-scale methods, including recycling in its myriad forms, are rejected on the way to the Big Machine or the Big Burner. Either/Or, One-Best-Option at its best—the thought process is pure *reductio ad absurdum*. Here are some actual examples of waste planners in their act of exercising Either/Or, One-Best-Option logic to eliminate all small-scale, decentralized systems from consideration:

A personal favorite of mine is the set of working assumptions outlined by J.J. Troyan and D.P. Norris, engineers for the firm of Brown and Caldwell, in their cost-effectiveness study of "Alternatives for Small Wastewater Treatment Systems," paid for with a substantial grant and disseminated at public expense as a part of the EPA's Technology Transfer Seminar Program. Under the heading of *Problem Conditions*, Troyan and Norris recite the Catechism of sewage disposal:

"To evaluate on-site sewage disposal systems and non-conventional community collection systems, three basic premises should be borne in mind:

... if site conditions are suitable, the conventional septic/soil absorption system is the best type of on-site disposal system.

... if costs are reasonable, a conventional gravity sewage-collection system is the best type of community system.

... a conventional gravity collection system is the accepted standard for community sanitation against which all alternatives should be measured."

There you have it! While setting up their methodology for reviewing alternative sewage systems, authors Troyan and Norris manage to eliminate all waterless systems (primarily composting toilets), as well as most smaller, on-site biological water treatment systems, such as lagoons, greenhouse aquaculture systems and recirculating sand filters from consideration! The rest of the book is an examination of the comparative economics of gravity versus pressure sewers, both of which usually assume conventional treatment. This citation has a special poignancy for me, as it has been utilized by Lane County's Water Pollution Control Division in bypassing serious consideration of on-site, small-scale nutrient recycling systems for local, small-town applications we have supported, and pushing ahead with standard sewer engineering. And what are the consequences?

A sewer system for water-borne wastes is the precise analogue of the open disposal pit for solid wastes—only it isn't open. It's a web of pipe underground and it has lots of small openings instead of one big one. Anybody can—and does—dump just about anything liquid into sewers. Everything gets

mixed with everything else. Then chemicals along with mechanical and electric energy—all increasingly expensive—are used to separate the resulting goo into two fractions: a solid and a liquid. The solid is dried, aged and hauled by truck to various “disposal” sites. The liquid is doped with free elemental chlorine—a highly reactive element not found in concentrated elemental form in nature, at least on this planet—and piped into the local river, on its way out to the ocean. We are only beginning to understand the long-term effects of the presence of chlorine residuals in sewage effluents. The impact on aquatic ecosystems is frightening.³

Too Big, Too Small: Berkeley Gets Burnt

Sometimes, the Either/Or process can get pretty subtle: Berkeley, California, is facing the closure of its municipally-owned landfill (really a “bayfill” since it is several hundred feet out into the San Francisco Bay) by the early 1980’s. So an engineering and architectural firm was hired as Prime Contractor to figure out what to do. Because there are strong recycling interests and widely-successful programs in Berkeley already, some recyclers were hired to do parts of the study. A good idea so far. A composting study was done, showing a small, but strong local market at a good price. A composition study was completed which revealed significant tonnages of recyclables were possible, given source separation. Meanwhile, in neighboring El Cerrito, the technical and social basis was being laid down for universal collection of source-separated recyclables. Perhaps reflecting these positive developments, the cover graphic for the three volumes of the Prime Contractor’s report pictured a re-designed and upgraded version of a recycling center, including materials storage and a retail operation.

And yet, the Prime Contractor settled on a mechanized, centralized experimental garbage processing plant, including one or more incinerators to burn urban refuse. Since last year the whole thing has ballooned—from a single, experimental modular incinerator, to a 360-ton-per-day facility, to a projected 860-ton-per-day regional “burn plant,” incinerating mixed wastes from the East Bay all the way down to San Leandro. The latest price tag is \$10,000,000 set against a background of “potential” markets for the steam produced, a probable net energy loss when considering the complete process of burning refuse-derived fuel, unresolved, extraordinarily complex questions about toxic emissions, and a *still*-experimental and risky technology.⁴

To get a better sense of how this happened, consider the memorandum from a waste management engineer for the California State Solid Waste Management Board to the chief environmental engineer for the firm employed to coordinate the effort of providing “resource recovery” for Berkeley. Included in this memo are the conclusions drawn at a “screening of the alternatives” meeting between the various engineers involved, eliminating off-hand *all* biologically based recycling systems—including composting—in favor of the burn plant:

- Methanol, Ethanol, Ammonia and Hydrogen Synthesis were eliminated because several studies so far have shown that the economics of these processes require large systems of at least 1000 tons per day . . .
- Composting was conditionally eliminated. Although it is a demonstrated technology, there is not a demonstrated market for the compost in the quantities that would be produced by composting 200 tons per day . . .
- Biogasification should not be included. This technique is currently in a large-scale developmental process in Pompano Beach, Florida . . .
- Enzyme conversion of waste to protein is still in the early developmental stage; it is not ready for commercial operation, and therefore should not be included. The same can be said

EFFECTIVE RECYCLING BEHAVIOR



The line between disposal and reuse is barely perceptible in my greenhouse, unlike the dump where it tends towards absolute. As the compost is digested on the greenhouse’s north side, it is converted into a host of organisms, whose life processes reduce the volume and weight of the solid mass by about 80 percent, by conversion into gases like water vapor, carbon dioxide, and small quantities of methane, ammonia, ethanol, etc. These gases flow into the south enclosure, which is the greenhouse proper. Together they are a nutrient bath for the leaves, which absorb them through specialized structures. The carbon dioxide is converted to carbon and oxygen, liberating the oxygen for me to breathe, and sunlight is used to build the carbons into long-chain organic molecules—the sugars, starches, fats and proteins of food for the table and plants for the hillside. The greenhouse is “passive” in the sense that there are no moving parts other than vents—unless you count the winds and breezes, flows of light and dark, heat and cold, the planet itself as it spins through its seasons. The greenhouse just sits there, conducting and focusing the energies that come its way . . . I am a part of this process: I bring the compost feedstock and harvest the rich, crumbly humus residue for use as a growing medium and soil energizer and toner. I bring the seeds and cuttings, control the slugs and sowbugs (I feed them to fish), open and close the vents, and bring water.

I know lots of specific small-scale, decentralized waste reducing/recycling systems that work. My personal favorite, though, is my solar greenhouse, which recycles more than half of our non-waterborne household wastes by weight—including floor dirt and vacuum cleaner filterings, some paper and cardboard, some iron, rags and even shoes. It also devours any animal manure I can get my hands on, several weed species that I’m trying to suppress while my perennial food plants get established, almost all the fall leaves, and probably 20 percent of the deadfall that comes out of the trees during storms. (The other 80 percent of the deadfall and prunings are cut and dried for kindling and firewood.)

Using this system, while buying food in bulk, burning larger deadfall and prunings as kindling or firewood; saving glass, tin, oil and aluminum for the recycling center, sending

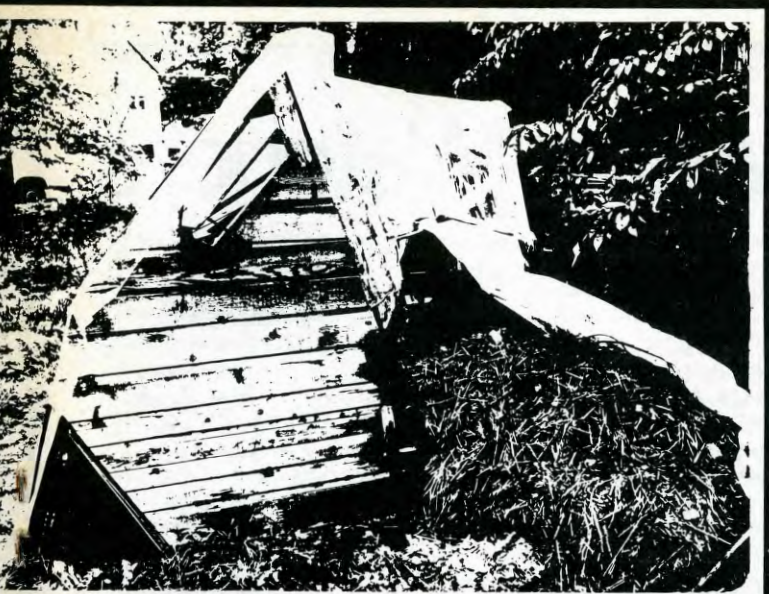


Photo by John T. Stoner

SOLAR GREENHOUSE EATS
WASTE, SAYS "THANK YOU."



reusables through Goodwill or St. Vincent's or the grapevine, we export somewhere between 100 and 200 pounds of mixed waste per year to the county's Solid Waste Division. We import much more than that. . . . With a little fine-tuning to eliminate the residuals, if all households in the county adopted the system we use at home, the biggest part of the "solid waste problem" would disappear—at least so far as households are concerned. . . .

Small systems can't deal with large volumes—by themselves—but multiply them, and their impact grows and grows. Still, one reason often given for not investing in small, decentralized systems is that cumulatively, they would be too expensive on a mass scale. Looking at the costs of my system doesn't support this generalization. It costs next to nothing in money because the whole thing is made from salvage—from the Nancy's Honey Yogurt containers we use as the first collection point for kitchen organics to the cedar siding on the greenhouse walls, to the rigid insulating panels and Jim Weaver for Congress lawn sign stakes used to strengthen and tie everything together—it's all salvage. I bought some hinges and a sheet of plastic for a cover. Capitalization costs were less than \$50 by conventional reckoning. Operating and maintenance costs are minimal. —DK

for using earthworms to convert waste.

- Fermenting waste to produce ethanol may be usable, but we have no information on any large-scale system using this process, except for a general description from Bolivia.

- Period.

So much for a consideration of alternatives. If I had to paraphrase this into a single statement, it would go something like this: "Biological processes were rejected because they are too big or too small, no single one is perfect, and we really don't know much about them anyway." Adding insult to injury, a subsequent document produced by yet another engineering consulting firm reveals that the planning has progressed to the point of *projecting the elimination of all recycling* at the Solid Waste Management Center, including materials storage and the retail operation, and even public access to the site—all as a part of the expansion to regional burn plant status.

Unfortunately, the "screening of alternatives" examples given above are all too typical of what is happening in waste planning circles as we near the end of the landfill era. In order to address this problem—and to make the people of Berkeley more aware that a labor-intensive materials recovery system would lead to remarkably different end results compared to any technology which indiscriminantly mixes and burns garbage—I was retained by local recyclers to critique the Plan as developed by their city's technical consultant. Here is part of my criticism concerning the decision not to put money or design time into anything but a burn plant:⁵

- Where did the 200 tons per day figure for composting come from? Even assuming 200 tons per day for the composting feedstock (a grossly inflated figure), there would still be less than 40 tons per day of finished humus to market or otherwise find uses for.

- What is a "demonstrated market," and why was this criterion not applied in the case of burning garbage as *fuel*, which not only lacks a "demonstrated market," but a "demonstrated technology" as well? (See *Rain*, Nov. '78).

- What studies concluded that "economies of (alcohol) systems require large systems of at least 1000 tons per day capacity?" Did anyone look into the experience of China, which has built 4.3 million small methane systems since the mid-1970s? Has anyone heard of the methane system being operated at the Washington State Prison designed by the Ecotope group? Did anyone contact Al Rutan of Minnesota, who has designed and helped to build several operating systems?

Trained Incapacity Is No Excuse

Evidently the engineers representing the city, the consultant group and the state were just ignorant of many of the systems they eliminated. While there are exceptions, it's generally true that engineers are rarely trained in biology or ecology, and are not made familiar with the experiences of "third world" countries, which have countless low-cost, operational, biologically based nutrient recycling systems. This built-in bias of the engineers often placed in charge of the planning phase of waste disposal needs to be exposed in light of the following:

- If, as seems undeniable, the problem of contamination of waste with toxic substances has been underestimated by engineers, then the commitment to rely on burning as the primary means of oxidizing and reducing the volume of organic matter will *increase* the quantity and quality of risks, while masking the effects. The pollutants will tend to travel faster through the airshed, and will be dispersed over a larger area. If air pollution of the type generated by the plant is deemed to be unacceptable, the community will have invested several years and a huge amount of paper credit for nothing—and more damage will have occurred in the meantime, making recovery more difficult.

CONT.

• It can't be overemphasized that biological nutrient recycling systems do produce a usable end product—while incineration systems produce only a more concentrated and refined form of waste (e.g. ash, sludge or dust) to burden the environment.

• Nutrient recycling systems are themselves indicators of the quality of the inputs; if a worm-bed expires after being given a load of refuse-derived fuel to digest, it indicates that something is wrong with the refuse-derived fuel, and steps can be taken to adjust the infeed mixture, exclude toxics, etc. Such a "distant early warning system" is far more sensitive and timely than the lab analysis method, which had yet to devise tests for more than a fraction of the thousands of toxic and hazardous substances that have flooded our ecosystem in the twentieth century. It is also far less expensive.

The Threat to Biological Nutrient Recycling

More than ignorance, we are dealing with a distinct threat. Coming on the heels of a genuine flowering of labor-intensive recycling processes—all happening with little or no subsidy—the plan to usurp the largest share of available financing and credit to put incinerators and similar systems in place stands in direct contradiction to the major trends in effective resource recovery. Why should people be getting big money to talk and think about unproven garbage Supertech when labor-intensive recycling does it better *now* and could be expanded except for official stonewalling, harassment, lack of funding, lending capital and the like? Communities are being asked to transfer the pollution from the ground to the air, to put themselves at immediate risk, to accept welfare and "workfare" (the provision of a few high-paid jobs that often go to temporary, imported labor) in place of something useful, effective and productive to do. While Rome burns, we're all being asked to fiddle. . . .

Research for this article was sponsored by the Lane Economic Development Council, P.O. Box 1473, Eugene, Oregon 97440. Part II will appear in our August/September issue.

Notes:

1. *Metals Recovery Demonstration Project*, prepared by Don Corson, project design by Tom Brandt, Lane County Office of Appropriate Technology, 34 pp., 21 July, 1978, out of print. (See RAIN, Nov. '78.)
2. William L. Kovacs and John F. Klusik, "The New Federal Role in Solid Waste Management: The Resource Recovery and Conservation Act of 1976," *Columbia Journal of Environmental Law*, 3:205, 1977
3. "Unnecessary and Harmful Levels of Sewage Chlorination Should Be Stopped," General Accounting Office, Report Number CED-77-108, 44 pp., August 30, 1977. This is a "study of studies" with a lengthy bibliography and further references and support literature. Excerpt: The National Academy of Sciences classify substances as "highly toxic" to aquatic life when 10,000 parts per billion will kill 50 percent of a test population within 96 hours. In the case of chlorine when tested, a 67% kill of brook trout was achieved within 96 hours with only 10 ppb. It has been acknowledged that early morning chlorine residuals from small wastewater plants may run as high as 22,000 ppb.
4. H.M. Freeman and R.A. Olexsey, "Energy From Waste: An Environmental Solution That Isn't Problem Free," in *News of Environmental Research in Cincinnati*, Industrial Environment Research Laboratory, USEPA, Cincinnati, 1977. "Very little has been published concerning the existence in refuse of potentially hazardous trace materials that might eventually be found in off-gases and effluents." Significantly higher levels of heavy metals, ash and particulates, and chlorides are to be found in refuse-derived fuels than conventional fossil fuels, including coal.
5. *A Recycler Looks at Resource Recovery: The Berkeley Burn Plant Papers*, by Dan Knapp, 1979, \$3.00 from Oregon Appropriate Technology, P.O. Box 1525, Eugene, Oregon 97440. An annotated commentary on proposals for garbage incineration strategies containing the critical analysis upon which much of the above article is based. Prepared under the auspices of the Community Conservation Centers of 2304 6th St., No. 2, Berkeley, California 94701.

Waste Watchers

With the recent accident at the Three Mile Island nuclear power plant and the increasing amount of radiation which enters our environment daily, it is becoming apparent that we must do something to protect ourselves from this lethal substance. Leonard Jacobs of the East West Journal, June, 1979 (\$12/yr. from P.O. Box 505, Whitinsville, MA 01888) has written an article entitled "Natural Ways to Survive a Melt-down" which addresses this problem. Drawing on the experiences of Nagasaki and Hiroshima survivors who were able to avoid the harmful effects of the bombing by eating certain foods, Jacobs has compiled a diet which will lessen the harmful effects of radiation on our bodies. . . . Bon appetit. —YL

Certain dietary adjustments can help balance the extreme effects of radiation contamination. Of course, the best overall approach is to maintain health through a balanced diet so you will be prepared for radiation sickness as well as for those other human-made and natural epidemics that are accompanying modern civilization's rapid development and degeneration. Dietary recommendations for nuclear radiation sickness emphasize foods which are helpful for promoting healthy intestines (for blood production), for strengthening healthy kidneys (which may be weakened through filtering radioactive elements from the blood), and for improving the overall condition of the liver (which is responsible for detoxifying the body).

1. Those who are living within a radius of approximately 30 miles of a nuclear reactor accident should follow the following dietary advice until possible danger disappears:

- 60-70 percent whole cereal grains
- 3-5 percent (1 or 2 cups) miso soup with vegetables and seaweed
- 20 percent vegetables, cooked
- 5-10 percent beans and seaweed

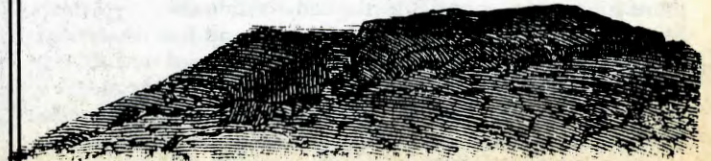
Strictly avoid all sugar, honey, and saccharine. Avoid meat and dairy food; oil, greasy food; refined salt; refined flour products; all vegetables of tropical origin such as potato, tomato, eggplant, asparagus and avocado; soft drinks, coffee and chemicalized food; minimize all sorts of fruits and fruit juices.

Whole grains, not flour products, should be consumed. Round vegetables, such as pumpkin, onion, cabbage or root vegetables are preferable to other types. Smaller varieties of beans, such as azuki beans and lentils, are better than larger types such as kidney beans. For seasoning use unrefined sea salt, sesame salt, traditionally fermented shoyu soy sauce, and miso.

Fluid intake should not be excessive; generally speaking, urinating more than 3-4 times per day is indicative of excess fluid intake.

2. People living up to a distance of one hundred and fifty miles from the site should eat according to the following dietary specifications:

- 60 percent whole cereal grains
- 5 percent soup—miso soup or natural shoyu soup, with



Visions of Three Mile Island

May 26, 1979. I am aboard the Broadway Limited—Amtrak's train from New York to Chicago on my way back to Portland and home. For the past month I have been on the East Coast, visiting with my friends and family and talking with people in the appropriate technology/anti-nuclear movement. The talks have been very inspiring to me for not only have I learned of many exciting a.t. projects going on in the East, but my faith in people is restored: through the terrible accident at Three

Mile Island, people in the Amherst area, as elsewhere, gathered together to share ideas, fears, and facts about nuclear power. Many also vowed that if they made it through this disaster, they would join together and fight nuclear power. The seeds which they have planted are now taking root.

As I sit in the dining car eating a meal of fried perch and reflecting on my experiences back East, I am amazed at how beautiful the surrounding countryside is. The trees are a bright spring green, flowers are appearing on the landscape, and even though I can't hear them, I know that the birds are singing with great joy. The scene is truly inspiring.

Suddenly, on the other side of the train, four cooling towers of a nuclear power plant loom up over the countryside like an ominous black cloud. "Oh my God!" yells a fellow passenger, "That's Three Mile Island!" And Three Mile Island it certainly is. Amid all of the beauty which surrounds me is the site of the worst nuclear accident in our nation's history. The beautiful area that I am passing through is contaminated with radioactivity—maybe never to recover. Suppressing my rage, I vow to join my friends in the East in continuing my struggle against nuclear power—as well as creating an alternative. It is comforting to know that I am not alone in making this vow. —YL

vegetables and seaweed (sometimes grain or bean soup)

20-25 percent vegetables

5-10 percent beans and seaweed

Fish or local fruits (cooked) can be taken about once a week. Raw fruits and fruit juices should be avoided. Beans can include a few varieties other than lentils and azuki. Follow the

remaining dietary recommendations for those living within thirty miles of a nuclear accident.

Dietary practices that promote and accelerate radiation sickness include:

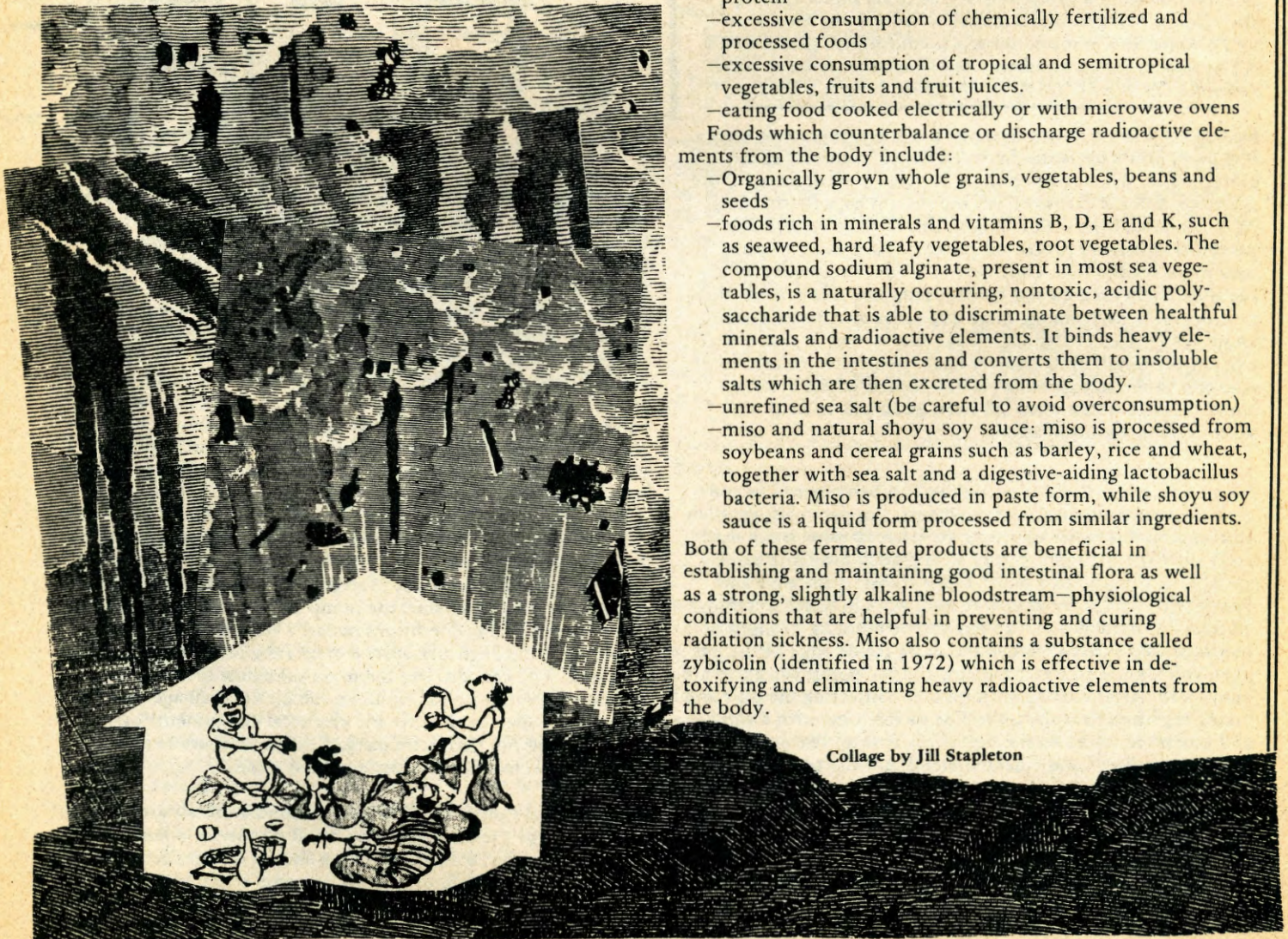
- excessive liquid intake
- excessive consumption of simple sugars
- excessive consumption of fatty acids as well as animal protein
- excessive consumption of chemically fertilized and processed foods
- excessive consumption of tropical and semitropical vegetables, fruits and fruit juices.
- eating food cooked electrically or with microwave ovens

Foods which counterbalance or discharge radioactive elements from the body include:

- Organically grown whole grains, vegetables, beans and seeds
- foods rich in minerals and vitamins B, D, E and K, such as seaweed, hard leafy vegetables, root vegetables. The compound sodium alginate, present in most sea vegetables, is a naturally occurring, nontoxic, acidic polysaccharide that is able to discriminate between healthful minerals and radioactive elements. It binds heavy elements in the intestines and converts them to insoluble salts which are then excreted from the body.
- unrefined sea salt (be careful to avoid overconsumption)
- miso and natural shoyu soy sauce: miso is processed from soybeans and cereal grains such as barley, rice and wheat, together with sea salt and a digestive-aiding lactobacillus bacteria. Miso is produced in paste form, while shoyu soy sauce is a liquid form processed from similar ingredients.

Both of these fermented products are beneficial in establishing and maintaining good intestinal flora as well as a strong, slightly alkaline bloodstream—physiological conditions that are helpful in preventing and curing radiation sickness. Miso also contains a substance called zybicolin (identified in 1972) which is effective in detoxifying and eliminating heavy radioactive elements from the body.

Collage by Jill Stapleton



Another Solar Water Heater

Jeff Paine

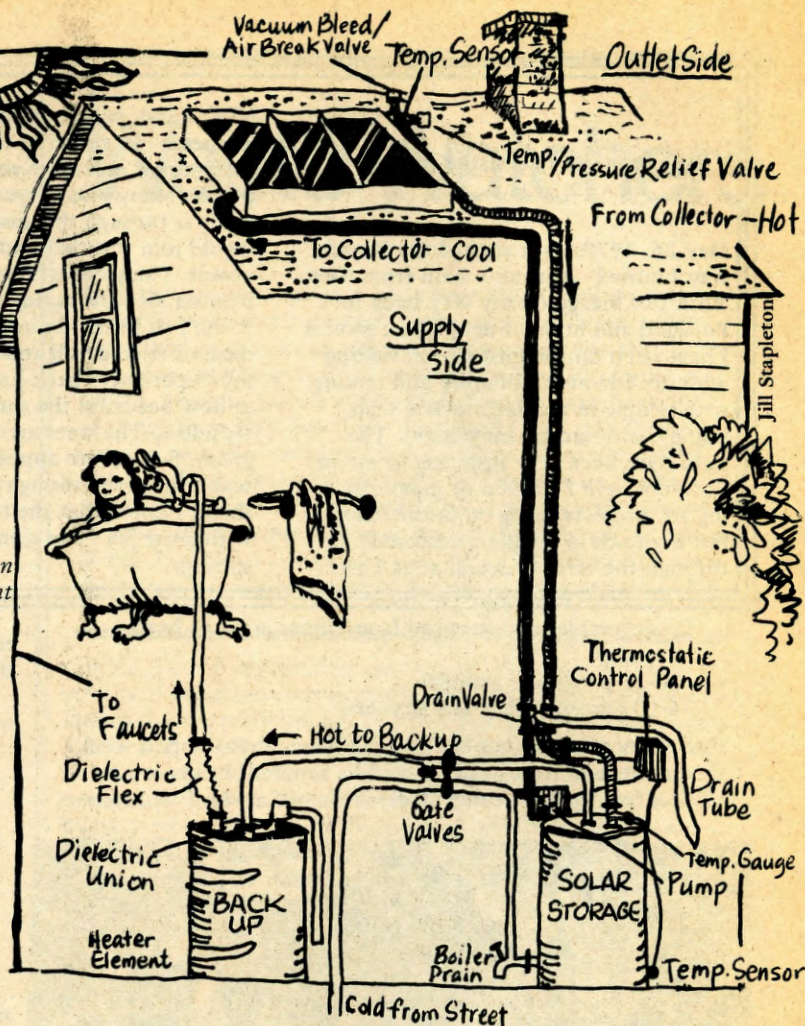
Even in the cool and cloudy Pacific Northwest, it's time for homeowners to install solar hot water heaters. What we're learning here ought to be good news for the rest of the country. The economic case for such solar applications continues to brighten as utility rates soar and newly implemented Oregon state and federal tax credits reduce solar costs up to 55 percent. As for the remaining 45 percent actual cost, that investment can be returned upon sale of the home with the additional market value a solar hot water system adds. So don't let the initial \$2500 or more contractor installed price scare you away—over the long term your expenditure will be returned along with virtually free energy dividends.

If you want to install a solar hot water system yourself—or at least understand some of the finer details—the following information should prove useful. The drain down system, described is being installed locally at workshops sponsored by Portland Sun—a local non-profit educational group which offers solar workshops, classes and consulting services. Their address is 3334 S.W. 1st Ave., Portland, Oregon 97201. —JP

Opting for a Drain Down System: Drain down systems circulate pure, drinkable water between a solar collector and a storage tank. When temperatures fall below 40 degrees F., the collector water is drained from the system by a thermostatically controlled valve. Put simply, this type of system outperforms antifreeze protected systems: Pure water absorbs heat more readily than antifreeze solution. Consequently, the required collector area and coolant pumping rate are less than a comparably performing, more expensive antifreeze system. Drain systems also offer additional cost savings in that a heat exchanger—required to transfer heat from collector antifreeze solution to the storage tank—is not needed with a system based on pure water. Here are some good tips to help with your drain down installation:

Sweat Soldering: Rigid type M copper pipe was used to connect the two tanks and solar collectors. Copper costs less than steel pipe and is easier to install. Any handy person can cut and solder the fittings together with readily available hand tools. It is important to polish the surfaces of the pipe and fitting with sandpaper or coarse steel wool in order to remove all traces of oxide which can reduce the bonding strength of the solder. Be sure to remove the sharp inside edge of the cut pipe with a knife so water friction and the pump workload are minimized. After coating with flux, and inserting the pipe and fitting together, heat the underside of the joint with a torch and touch the solder to the top of the fitting. The solder should be melted by the heated metal, not the torch flame. Overheating the joint may burn the flux and weaken the joint.

Different types of solder are used. Inexpensive 50/50 tin/lead solder is used for joints outside of the collector. Temperatures inside a solar collector can reach 400 degrees F., so use more heat resistant and expensive 95/5 tin/antimony solder on the collector plumbing. For perfectionists, brazing is the best method for connections inside the solar collector.



Code Requirements: Notice from the drawing, 3/4 inch copper pipe is used between the street water meter and the hot water tanks. Downstream from the water tanks, 1/2 inch pipe can be used. Plastic PVC pipe cannot be used inside the house. High temperatures deform it and chemicals can leech into the hot water. The backup tank must be fitted with a temperature/pressure relief valve drained by a pipe pointing downwards within 2 feet of the floor. If installed on a wooden floor, the backup tank must rest on a drip pan drained by a metal pipe to the outside of the building. A temperature/pressure relief valve is not required on the solar tank, but one should be installed near the hottest part of the system, the outlet pipe of the collector array. If an electric panel is near the water tanks, be aware of the code requirement for an adjacent 30 inch by 3 foot deep access area clear of all obstructions.

All fittings on the pump, drain valve, and the pipe to and from the collector are usually 1/2 inch diameter. Temperature sensors on the collector and storage tank activate a control thermostat which can shut the pump off and open a drain valve when freezing conditions occur. This empties the collector water through a neoprene drain tube into a floor drain or a sink. You can also run the drain tube outside the house, but be aware that ice can build up, block the drainage, and freeze the collector. Be sure the electrical components carry a UL label and run their wire inside flexible armored cable or else an inspector may condemn your system.

Copper/Steel Corrosion: Wherever dissimilar metals are in contact in the presence of water, rapid corrosion will occur. To minimize this, a dielectric union should be installed. The plastic coupling inside this fitting prevents actual copper/steel contact. Homes with soft water have less bimetallic corrosion than homes with well water or hard water, so an inspector may

not require dielectric unions in some locations. Outside of wall coverings, such as water tank connections, dielectric unions are not required by the code, but use them anyway for extra protection. Dielectric flex connectors can be used instead of unions if you prefer. Being flexible, they simplify attaching pipes to tanks, but they are expensive and more restrictive to water flow.

Gate Valves: In order to shut the system off, 3/4 inch gate valves are installed between the two tanks. Globe valves should not be used, as they are restrictive and reduce water pressure. Normally, the top and bottom valves are open, the middle valve shut. Should the solar collector or tank require repairs, the middle valve is opened and the other two shut, enabling the backup to operate without interruption.

Insulation: A very important requirement for good performance is insulation. Storage tanks must be insulated at least with 6 inches of R-10 batting. But don't insulate over any wires or electrical connections. Underwriters Laboratories says heat can build up to dangerous levels. Often overlooked is the need to get both storage tanks off the cool concrete floor with an insulated wooden platform or a couple sheets of styrofoam. Collector pipe runs, and the 3/4 inch hot pipe between the tanks can dissipate a lot of heat too unless well insulated. Arma-flex, a hollow foam material, is excellent for this purpose. When installing it, avoid slitting longitudinally and cementing it back together. The glued seam looks bad, never holds together very long, and leaks a lot of heat. To prevent this, slip uncut Arma-flex over the pipe before you solder the fittings. When soldering, keep the insulation away from the heat with vise grips clamped to the pipe. Also important is to run all pipes inside the heated portion of your house. Do everything possible to minimize heat losses from pipe runs, or your solar system performance may disappoint you.

Pipe Slope: The collector to storage pipe run must slope at least 1/4 inch per foot of horizontal run to insure proper drainage and freeze protection. During the summer, heated water will emit air which can block pipes and cause overheating damage unless the pipe slopes uniformly away from the air bleed/vacuum break valve atop the collector. The solar collectors must also slope properly to insure adequate drainage. Tilt the outlet side of the collector support frame at least 2 inches above the inlet or supply side. Try to mount the collector frame on an overhanging eave, so any leaks from the roof penetration by the frame attachment will not damage the house interior.

The Antifreeze Alternative: In climates where frequent freezing and thawing temperatures occur, antifreeze systems are less likely than drain down systems to suffer from freeze damage. The collector solution cannot freeze so long as the owner maintains an adequate level of antifreeze concentration. On the other hand, draindown systems rely upon mechanical safeguards for freeze protection. So long as these components operate properly, the system won't freeze. But should an electric valve, a vacuum break valve, a temperature sensor, or a thermostat malfunction—or if the pipes are not installed properly—freeze damage will result. This lesson was learned during Portland's unusually cold winter last year, when many drain down systems froze up.

Unlike drain down systems, antifreeze systems require a heat exchanger storage tank. You can build this component yourself, according to Tim Woods, a CETA solar technician. He buys new factory second hot water tanks from a plumbing distributor. Starting at the bottom of the tank, 60 feet of 1/2 inch soft copper tubing is wrapped around the tank. To increase heat conduction, the tubing is coated with 1/2 inch Thermon T85, a heat transfer mastic. It takes 5 tubes or \$30 of this stuff to do the job adequately. Soldering the tubes on the tank can heat damage its rust protective glass lining. A

plumbing inspector told me corrosion from the copper/steel contact should not be a problem since there isn't any water flowing between the two metals. After insulating, this heat exchanger storage tank should work almost as well as commercially available versions costing a lot more. For more details on this device, see the following reference section.

If you have installed or lived with a solar water heater, any information you are willing to share with *Rain* would be appreciated. I am especially interested in experiences with thermosiphoning or passive water heating systems. All you folks who have purchased *Rain's* Solar Water Heating Workshop Manual are urged to speak up!

Instruction Manual for a Solar Hot Water Heater Unit, by Clackamas County CETA Solar Project, \$1.50, available from:

Clackamas CETA Solar Project

P.O. Box 215

Marylhurst, OR 97306

The Clackamas CETA Solar Project trains teenagers to build and install, free of charge, solar hot water systems for low income homeowners. So far, 14 systems have been installed, costing \$500 each for materials. If you want to build your own version of this design, obtain a copy of these step-by-step instructions. (This solar project is looking for free, donated materials. If you have any unwanted patio door glass, exterior plywood, or 1x2 or 2x4 lumber, call Tim Woods, 636-5101.)

Build Your Own Solar Water Heater, \$7.95 from:

Garden Way Publishing

Charlotte, Vermont 05445

One of the most detailed descriptions available on building your own active solar hot water system.

"SDHW Systems: What Experts Look For," February, 1979, by Daniel C. Lewis, pp. 16-19. "Domestic Hot Water," March 1978, by Robert O. Smith and John Meeker, pp. 16-24. Solar Age, \$2.50 each plus \$1 handling on orders of \$5 or more, available from:

Solar Age

P.O. Box 4934

Manchester, NH 03108

The SDHW article offers an excellent discussion of system components with suggestions from the experts. "Domestic Hot Water" describes what went wrong with a large solar hot water project sponsored by a utility company.

Tax Credit Eligibility Criteria for Residential Alternative Energy Devices, free from:

Oregon Department of Energy

Room 111

Labor and Industries Building

Salem, Oregon 97311

Toll free access: 1-800-452-7813, ext. 4040

At present, the DOE eligibility requirements for a 25 percent tax credit on a solar hot water system are ridiculous. Your system must provide 10 percent of your home's "total energy consumption," including space heating. This total is estimated from your home's square footage of habitable space. Everyone knows hot water consumption depends upon the number of residents, not the size of the house or how much space heating it requires. But unfortunately, if you live in a large old uninsulated house, or live alone, a solar hot water system eligible for a tax credit would have to be excessively oversized and expensive. Help is on the way, however. By September 1979, SB 337 should be enacted by the Oregon State Legislature, changing the eligibility requirement to 50 percent of your hot water consumption. So if you live in an old house, wait until this bill passes the legislature before starting your project. □□□

Hometown Rooters or Corporate Looters?

by Tom Bender

For years we've been told that specialization and trade rather than self-reliance is beneficial both in our personal lives and internationally. The effects of the economies we've built upon those principles suggests, however, that we've been hoodwinked by such claims and would be wise to reconsider both those basic principles and the economies we've built upon them. The theory of fair trade among equals is fine, but a far cry from the gunpoint barter and monopolistic practices that characterize the reality of trade between powerfully unequal partners.

The comparisons of self-reliant and trade-based development on the international level are particularly dramatic. Trade-based economics has resulted principally in the further enrichment of already wealthy and powerful countries, corporations, and individuals. Although there has been some statistical improvement in aggregate income in a number of countries, the *distribution* of wealth has worsened both within countries and between them. Wealth is relative. It has meaning only compared to prices and to the income/wealth/power of others. In 1900 people in poor countries had a per capita income of about one-half that of people in rich countries. By 1970, per capita income in poor countries was about 1/40 of that in rich ones.¹

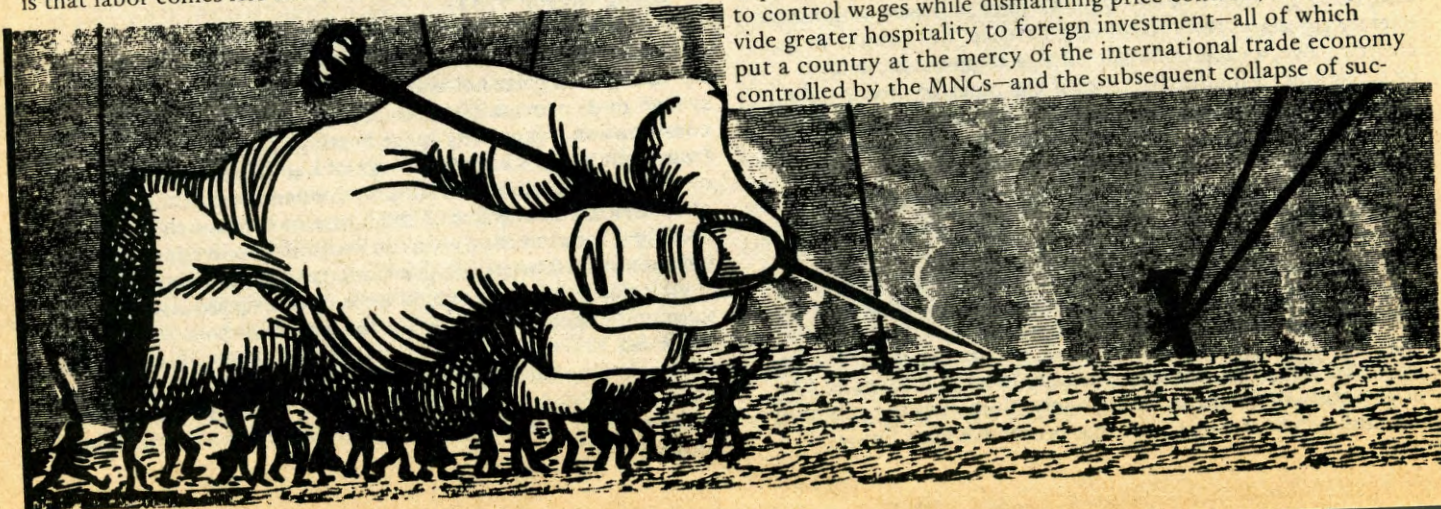
The increasing domination by multinational corporations of international trade and the internal economies of countries, and the consequent massive transfer of wealth to the rich is heavily documented in detailed studies such as *Global Reach* and more technical reports. Average profit rates of from 50 to 400 percent are commonplace, and compared to world market prices, national markets controlled by MNC's show overpricing from 30 to more than 700 percent.² The result is that labor comes less and less close to obtaining a fair return

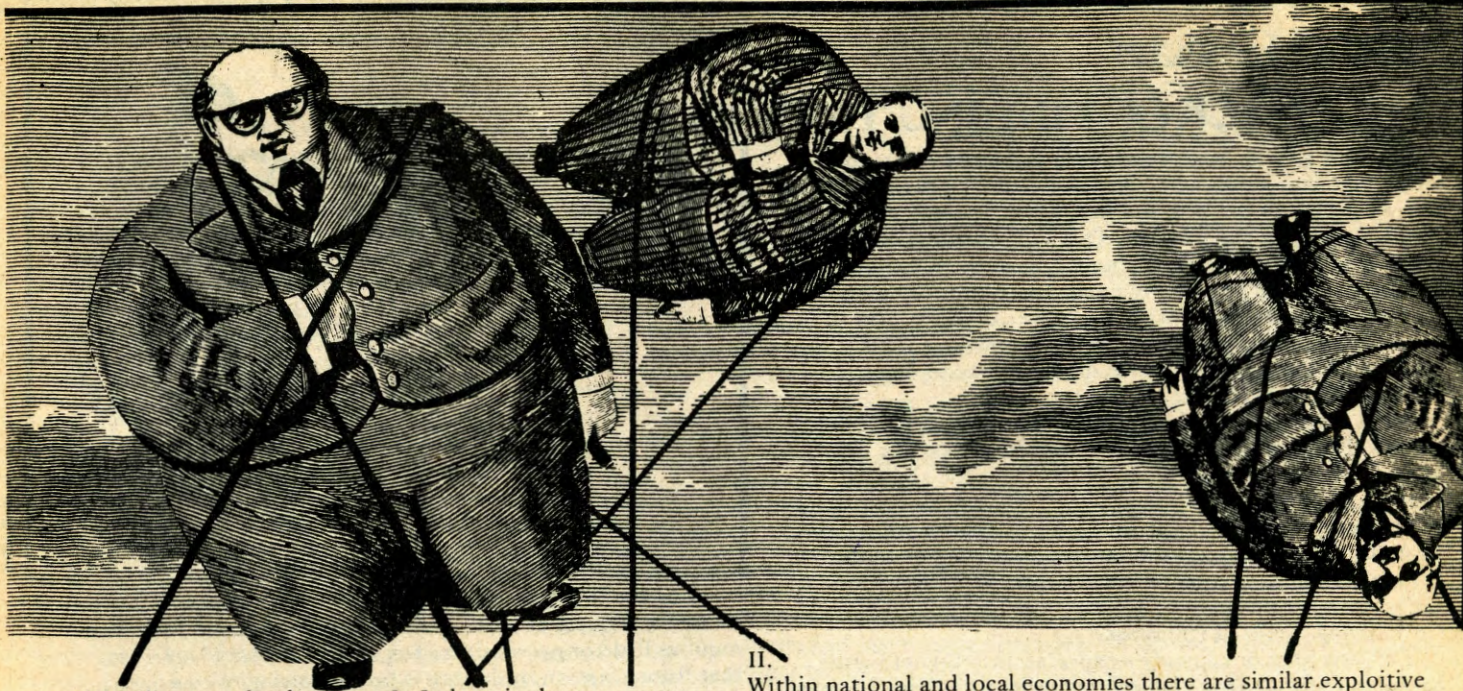
for its contribution to production, while capital even further exceeds its fair return—labor receiving now about 33 percent less than its fair return and capital receiving 62 percent more than its fair share.³

This has not happened accidentally. Blatant gunpoint barter such as that initiated by Admiral Perry's "opening" of Japan, the forced introduction of opium into China by European trading countries, or the more recent Suez Canal war, has been replaced by less obvious, yet equally effective means of control of the terms of trade by powerful countries. Again, the details can be found in studies such as *The Trojan Horse* and *The Imperial Brain Trust*. They lay out clearly the U.S. business community's successful campaign through their Council on Foreign Relations, Overseas Development Council and other channels to obtain U.S. foreign policy and postwar reconstruction conditions that have actively promoted their profitable overseas expansion and ever-increasing control of the economies of other countries.

The currently most successful gloved fist is the use of organizations such as the World Bank and the International Monetary Fund—in appearances international, but in reality controlled by the U.S. and dominated in staffing and policy by the U.S. business and finance community—to control the terms and conditions of development loans as leverage to open national economies to outside exploitation.

Case studies made in the Philippines, Indonesia, Indochina, Yugoslavia, Brazil, India and other countries have strongly documented a direct link between IMF development loan requirements to abolish import controls, devalue currencies, to control wages while dismantling price controls, and to provide greater hospitality to foreign investment—all of which put a country at the mercy of the international trade economy controlled by the MNCs—and the subsequent collapse of suc-





successful indigenous development. In Indonesia these measures forced large numbers of native-owned industries to close down due to contraction of the money supply and favoritism given to foreign industry. In the Philippines the result was an increase in profit taken out of the country from \$200 million to \$990 million in five years and an increase in foreign debt from \$275 million to \$737 million. In Argentina the results of such an austerity program were a 20 percent decline in per capita consumption, a flight of capital and a 400 percent increase in the cost of living.⁴

In contrast, the achievements of the few countries that have been able for a significant period to resist the pressures and lures of debt-financed, trade-centered development and to demonstrate the viability of self-reliant economies and self-development are impressive. Compared to that of India and other countries with problems of far less magnitude, China's self-reliant development of the last thirty years has been astounding. In the 1950s, when they were able to exercise import and exchange controls, the Philippines sustained a growth rate of 10 to 12 percent per year. After the Korean War, North Korea performed a bootstrap development, giving it in 20 years an economy comparing favorably with anything in Asia outside Japan. Chile under Allende and Ghana under Acheampong registered equally significant gains.⁵

Successful self-reliant development has occurred within both capitalist and socialist philosophies. That the most dramatic of these achievements have been socialist is only because few capitalist countries have been willing to directly deal with the basic problems associated with equitable development. As Steve Weismann notes, "Capitalist development generally builds on the best, investing where the rate of return is greatest. This favors those who already have skills and capital, and it provides first for those who already have the income to generate demand. The Chinese Communists built on the worst. They attacked the worst forms of poverty first: malnutrition, illiteracy, disease, squalor, unemployment, and inequalities. The Chinese worried less about how much was produced and how fast, more about what to produce and for whom. Development trickled up, not down. That was the first principle. The second is even more impressive: *they* did it, and without us."⁶

II.

Within national and local economies there are similar exploitive structures resulting from trade economics. Money is drained out of local communities by franchises, chain stores, banking conglomerates and unequal impacts between taxation and the services they provide. Unfair terms of trade exploit certain sectors of society. In farming, people work long hours at low incomes to sell in competition with each other to monopolized marketing structures while having to buy monopolistically priced farm inputs. In the fast food industry workers are kept at minimum wages and prevented from unionizing, while having to buy consumer goods at corporate-determined prices. Wealth is shifted from rural areas to cities by public policies maintaining low food prices at the expense of farmers. Centralization of public services such as hospitals, schools, and universities again gives more real wealth to urbanites while shortchanging rural and small town residents.

Tax loopholes for the wealthy increase inequities and burden the poor with the cost of public services. Corporations and the wealthy move outside governmental boundaries to escape taxation just as MNCs do on the international level. Real and threatened plant closings destroy local economies and the bargaining power of workers. States and local communities are forced into expensive competition for location of the few large industrial plants being built. Restrictive regulation of professional services such as doctors, lawyers, architects or plumbers results in excessive charges relative to the wages of others. Mechanisms similar to those on the international level force people from self-reliant economies into trade economies—unjust taxation, interstate commerce regulations prohibiting protective tariffs, credit bias towards large investors and governmental regulations and selective non-enforcement of laws that make unionizing difficult and trust-busting impossible. In these ways and more, trade economics move control of basic aspects of our lives out of our control—whether on a personal, community or national level.

III.

Americans have benefitted more than probably any other country from the "gun point barter" of trade-based economics, and it may seem odd that we are starting at this late date to be concerned with fairness, equity, and the protection of underdogs. The reason lies in basic shift occurring in the global



Collage by Jill Stapleton

by Phil Henshaw

THE KNACK OF FINDING THINGS

If you have gone on walks with others, you are likely to be aware that some folks have a knack for finding the path, observing the lay of the land and the paths of people or animals who have walked there before. This and other knacks might seem to be born with people, but for most of us, I think, they are learned by patient self-teaching. There seems to me to be at least one similarity between all knacks. Knacks seem to revolve around an ability for accepting the obvious. This is to say that all knacks seem to include the ability to respond directly to simple observation.

Modern life is mysterious to me. There is both great delight and much to fear in our intensely aggressive way. My question is, do we have the knack for it? Do we have the ability to respond to the obvious? We seem so self-assured, so committed to how some things are right and some things are wrong. But I wonder, is our self-assurance an understanding or an illusion? Do our confidences come as responses to clear observation of the true nature of things or are they just for convenience or for relieving a guilt of ignorance?

I observe that our society's expectations of what nature has in store for us have changed radically in the past 20 years. They have clearly changed to the point that we can safely say that the expectation of joy in unlimited wealth is wrong, or more precisely, has been shown to be woefully inaccurate. It also seems relatively simple to observe that not one of our leaders has said simply and directly that they themselves, along with all of us, have been and are probably still wrong in our opinions on this question of great importance. Why?



I observe that the subject of our natural destiny is not often treated as a question at all, but as a conclusion, and therefore requires little or no consideration of its accuracy. Now that that former notion of destiny is fast dissolving, we seem to not be very curious about what nature really does have in store for us. It seems that while some nervously cling to the old, that others just want to discard the old without valuing it, to pick up a new destiny in the same easy unconsidered way. This is not the behavior of a culture with a knack for making the best out of their place in nature. It is the behavior of a culture at the mercy of nature.

Had we the knack for the obvious, we'd observe that the

Rooters or Looters? - continued

trade economy. On the international level the period has ended when we had a substantial monopoly on many manufactured goods and could name our price, while playing one raw material producer off against another, squeezing them to the lowest possible price. During that period we used up much of our own resources and a considerable amount of the rest of the world's. Now the countries with remaining resources are becoming able to sell them at monopoly prices (OPEC, for example), while we have to compete in the sale of our products against other nations with newer equipment, lower wages, and more initiative. We're moving from the long to the short end of the trade balance, and the underdog we're concerned about, of course, is ourselves.

The other reason we have to become concerned with fair trade is that our servants, the multinational corporations, who have dutifully plundered the economies of poorer countries for us in the name of "development," are threatening to become our masters—controlling our food and manufactured goods supplies, and making us compete with other starving countries for the privilege of actually producing the goods and therefore gaining employment. The massive economic power we've granted them forms an increasingly ominous threat to every democratic society, including our own. Political power often follows economic power, and without prudent action we will soon reach a point where the control of our own lives and destiny is irretrievably lost to us.

The growing ability of MNCs to operate beyond control by any national government has ended the period when the U.S. profited from their activities. Now U.S. taxes are as easily avoided as other nations, U.S. consumers squeezed by marketing monopolies, more and more U.S. jobs and union power lost through plant relocations to low-wage overseas locations, and

U.S. timber, agricultural products and raw materials exported for trade balance, resulting in domestic shortages and skyrocketing prices.

U.S. consumers do not profit from the lower cost of production MNCs obtain in other countries. Westinghouse radios made in Asia sell for \$17 in Japan, are priced at \$21 at U.S. ports, but have suggested U.S. retail prices of \$60. Tape recorders selling for \$70 in Japan cost U.S. consumers \$220.⁷ They charge what the market will bear—lower costs go to increase profits which support further overseas corporate expansion, not to consumer savings. In addition, the higher foreign profits set the sights for corporate profit demands in the U.S. and become the basis for high interest rates throughout our economy, which make our planning and capital development even more dangerously short-sighted.

As a result of these changes, the self-interest of Americans is shifting to coincide with that of countries we formerly exploited. It is in the interests of all of us to insure that fair trade rather than free trade occurs where trading is desirable, and to realign our economies upon the principles of self-reliance that can allow us both control of our own destinies and the fruits of our own labor.

Our so-called free-enterprise/free-trade system means freedom only for the powerful and the rich—those who can control the terms of trade. Fair trade is trade from choice, not need or threat; of surplus, not of essential food, energy, materials or manufactures. It is trade where any partner can refuse if mutually satisfactory conditions cannot be established. It depends upon a self-reliance of the trading partners which can give that freedom to refuse. It is trade where producers are paid a fair living wage for their work, where forest, soil, mineral and ocean resources are protected so they can serve future generations as well as the present, and where the accumulation and exercise of power and wealth is limited to protect the well-being of the rest of a society.

parts of our system which require us to double our consumption every 20 years need to be creatively rearranged so that they might contribute to healthy ways rather than to ensure the failure of healthy ways, and we'd all feel the need to speak and act accordingly. Had we the knack, we'd observe that accepting nuclear weapons is to accept a political game of chance where one of the bets is on the continuation of natural life processes themselves, and we'd all feel the need to speak and act accordingly. Had we the knack, we'd observe that we elect our politicians on the basis of their ability to state things conclusively, but that they do well at their jobs on the basis of their ability to be uncertain, yet act well, and we and they would all feel the need to speak and act accordingly. Had we the knack, we'd observe that the pressure we feel from working too hard comes from our longtime habit of promising to work better than we really know how, come tomorrow, and we'd all feel the need to speak and act accordingly. If we had the knack, we'd observe that our reasoning minds are no match for the extraordinary richness and complexity of even our own individual natures, and we'd feel free, each of us, to say that we don't know much of what we're talking about, we just like to venture guesses that sound good at the time. We wouldn't take hand-me-down guesses for gospel.

I don't know just what path to take or just how to find it, but I like to ask. Would we perhaps like a salesman to sell us a new path? Is it the job for a leader to lead us down one? Is it the job of a scientist to invent some new principles of nature to suit us? Is it a very very personal task that each of us must take for ourselves? Is there some sort of personal enemy which prevents us from seeing our world? I think there is such an enemy; however, for the enemy I see, we would need to attack with gentle caution and great love, for it is, I feel, our own personal abuse of the human feeling of confidence.

At all scales, from an individual providing for our own needs to a nation providing for its needs, the real alternative to trading in a situation where equal or fair terms are not available is to eliminate dependency upon that trade. To the degree that we individually are self-reliant and provide for our own needs, the impact on us of unjust return to labor, monopolistic prices for food, gasoline or manufactures, excess wages of others or unfair taxes are diminished. To the degree that a national economy is self-reliant, the less it even has to think about the games of MNCs, material or energy cartels, or inequitable trade arrangements.

A few years ago we would have laughed at the thought of self-reliant economies, believing as we did in the myths of economy of scale and benefits of specialization, and having our eye on other countries' oil or bauxite or tin. Now, however, we need to examine it seriously, for its benefits are becoming apparent parallel with the costs of a trade economy. The mechanisms, values and technologies appropriate to self-reliant economies are being demonstrated. The local and decentralized nature of renewable energy and the technologies for its direct and effective use have become apparent. Small scale, locally controlled industrial processes and institutional structures which can implement economic self-reliance at many scales are no longer a dream but off-the-shelf items. And we are beginning to understand what actions must be taken to refocus our economies and regain our control of them.

Four major factors that support and encourage centralization need to be fundamentally altered—advertising, finance, ownership patterns, and distribution of wealth. Postal subsidies and public media do not need to be used for advertising that can only be afforded by the wealthy few. Banking practices such as ownership of non-banking businesses, high interest rates, foreign investment, and consumer credit need reform.

My guess is that there are many many good ways to find the path, so long as there is the presence of caring uncertainty, and accepting love. The path I choose for myself is the path of unbiased observation of the nature of things, those life cycles and paths, and the energies put into them. For me it's not a question of the chicken or the egg but of the chicken's life cycle and the food. When I play the role of a student of solar design, it's not a question of the heat captured, but of the intertwining dance of sun and comfort. When I watch a game, the cheers do not raise the subject of the superiority of the home team, but of the waves of excitement passing from the play to shimmer in the crowd and be returned to the field. It's not a question of the causes of disappointment or satisfaction, but of the delicate cycles of expectation and the values invested in them. Rather than approving or condemning ourselves because we consume more than we did yesterday, for me it is a question of the life cycles of economy which require us to.

I spend much of my time observing fascinating things and sharing observations with the folks around me. It's a lot of fun to observe the art and play of all things, more fun even than spending money. For me, the timeless art of observing is a walking meditation, for, like all meditation, it is deceptively simple and surprisingly nurturing. The art of observing all things seems to begin with observing something you like, whenever you run across it. All you do is give attention. Once one discovers that it's healthy and fascinating to openly and quietly observe one's own ways, the rest seems to follow. Each of us has, in our lives, invented a great deal of our own thought process, perhaps we can teach ourselves a knack, a knack for observing, a knack for finding a path for our finest values, through the brambles of modern life. ●●●

Interlocking directorates of corporations, corporate control of other corporations, market monopolies, private profiteering from public utility monopolies and outside ownership of local businesses need to be eliminated. Taxation and mortgage policies that make possible pyramiding of accumulated wealth need to be changed.

A variety of other mechanisms can assist locally controlled development. Development of Japan and China in this century and the U.S. in the 19th century was based on purchasing technology rather than foreign ownership of businesses, and on repayable bonds rather than stockholding. Patent laws can be altered to allow free international use of patents and shorter restrictions on local use. Import and export regulation at local, regional, or national levels can direct development and prevent centralization of businesses. Depletion quotas can assist the wiser use of scarce resources. Disruptive plant relocations can be controlled. Joint information banks on worldwide operations of corporations coupled with requirements for all corporate books to be public documents, disclosure of stock voting/ownership and of reserves of crucial materials can assist the regulation of their operation. Laws favoring foreign investment and giving corporate tax advantages can be removed.

Many of these things are beginning to happen. Much more can be done. Control of our own needs, resources, work and well-being can be regained, once we are aware of what is happening today and how to attain alternatives that remove our reliance upon the self-serving actions of others.

Notes:

1. *Global Reach*, p. 190.
2. *Global Reach*, pp. 160-161.
3. *Global Reach*, p. 296.
4. *The Trojan Horse*, p. 66.
5. *The Debt Trap*, pp. 184-206.
6. *The Trojan Horse*, pp. 13-14.
7. *Global Reach*, p. 322.

cont.

The Small Towns Institute is seeking information on small community design projects carried out primarily with local finances and which demonstrate the economic benefits of effective use of design theory and practice. Further information is available from JoAnne Sperry, Small Towns Institute, P.O. Box 517, Ellensburg, WA 98926.

"The Five Standards for Safe Child-bearing" will be co-sponsored by NAPSAC and The Farm, July 15-17, in Nashville, Tennessee. 1) Good Nutrition, 2) Skillful Midwifery, 3) Natural Childbirth, 4) Home Birth, and 5) Breastfeeding, are the five standards to be emphasized. Contact: Dr. David or Lee Stewart, NAPSAC, Box 276, Marble Hill, MO 63764. 314/238-2010.

Children and Community, the annual community service summer conference, will be held in Yellow Springs, OH, July 27-29. The effect of community on child development and vice versa will be explored in the 3-day workshop. For further information, write: Community Service Inc., Box 243, Yellow Springs, OH 45387, 513/767-1461.

The Crabapple Center for Homesteading will present a week-long workshop from July 14 to 21. Food production, shelter and waste systems will be covered at the Pacific Coast Center. Write: Crabapple, P.O. Box 1302, Florence, OR 97439. Cost \$100.

The Dept. of Energy will hold Four Regional Solar Update Conferences focusing on demonstration projects. Dearborn, Michigan, July 11-13; Orlando, Florida, July 15-17; Philadelphia, Pennsylvania, July 29-31; Los Angeles, California, Aug. 1-3. For information write: Trinity Univ. TX 78284. Call: in Texas, 512/736-8311, outside Texas 800/531-7180.

"Management Assessment of Peat as an Energy Resource" will be sponsored by the Institute of Gas Technology, July 22-24, in Arlington, Virginia. Contact: Wendell W. Waterman, Institute of Gas Technology, 3424 South State St., Chicago, IL 60616, 312/567-3880.

RUSH



The 2nd North American Soycofraters Conference will be held this summer in Amherst, Massachusetts, at Hampshire College, from July 26-29. All aspects of soy products from production to consumption are covered in this 3-1/2 day conference. Write: Soycofrater's Assoc. of North America, 305 Wells St., Greenfield, MA 01301, 413/774-5480.

The Evergreen State College will offer a program in Alternative Energy Systems at the Olympia campus next fall. The program integrates theoretical concepts learned in the classroom with practical, "hands-on" experience in all aspects of renewable energy; biomass, solar, wind, etc. For more information contact the Evergreen admissions office, Olympia, Washington. 98505

Rooters or Looters? - continued

RESOURCES:

Global Reach, Barnet and Muller, 1974, \$6.95 from: Simon & Schuster
1230 Avenue of the Americas
New York, NY 10020

A superb compendium of the dreams, claims, actions and effects of multinational corporations. A basic information source for any efforts to change our economic patterns. Highly recommended.

Imperial Brain Trust, Shoup and Minter, 1977, \$17.50 from: Monthly Review Press
62 W. 14th St.
New York, NY 10011

An examination of the role of the Council on Foreign Relations in shaping our foreign policy to the benefit of the U.S. banking and business community. The role of business in establishing and funding the council, and the interweavings between corporate boards, the council itself and government agencies are laid out. Together with the above books, this fleshes out the corporate/governmental collusion in plundering the economies of developing countries.

The Trojan Horse, Steve Weissman, et al., 1975, \$3.95 from: Monthly Review Press
62 W. 14th Street
New York, NY 10011

A broader overview of the realities behind the Trojan horse of our foreign aid—police aid for tyrants, CIA covers, aid to U.S. corporations rather than hungry nations, the destructive effects of food aid, etc. A good eye-opener about who aid really serves.

The Debt Trap, Cheryl Payer, 1974, \$4.50 from: Monthly Review Press
62 W. 14th Street
New York, NY 10011

An appalling account of the role of the International Monetary Fund in preventing poor nations from gaining control over their own economies. A series of excellent case studies shows the impact IMF's policies have had in a variety of countries and how they have undermined the economy of the countries.

Development Without Aid, Leopold Kohr, 1973, \$12.95 from: Schocken Books
200 Madison Avenue
New York, NY 10016

A collection of Kohr's essays on self-reliant development—most valuable for the fund of detailed examples, references, quotations and quiet insights. □□□□

The first annual conference on Community Renewable Energy systems will be facilitated by the Dept. of Energy at the Univ. of Colorado in Boulder, Aug. 20-21. The conference will demonstrate the ideas of renewable energy sources and their applications and successes. Contact: Vicky Curry, Conference Coordinator, Solar Energy Research Institute, 1536 Cole Boulevard, Golden, Colorado 80401, 303/231-1467.

A weekend conference entitled "A Non-Violent Perspective on Race and Class" is scheduled for July 20-23. The War Resisters League is holding this gathering at Camp Kiwanis in Hidden Valley Tennessee. Contact: War Resisters League, 108 Purefory Road, Chapel Hill, NC 27514.

The Pacific NW Solar Energy Association will hold a conference, "Solar '79" from Aug. 10-12 at the Seattle Center. Emphasis will be placed on state-of-the-art applications and their feasibility in the Pacific NW. Direct inquiries to Jill Goodnight, Coordinator, Solar '79 NW, City of Seattle Energy Office, 920 Arctic Building, Third and Cherry, Seattle, WA 98104, 206/625-3835.

Labor and Solar Energy is the topic of a one and one-half day seminar at the University of Wisconsin-River Falls in River Falls, Wisconsin, on Friday, July 20, and Saturday, July 21. Solar Codes, Solar Certification, Training Opportunities and The Role of the Solar Installer are subjects that will be addressed in the conference, co-sponsored by the West CAP program and the Red Wing Vocational Technical Institute. For a brochure and more information, contact: C.L. Johnson, West CAP, 525 2nd St., Glenwood City, WI 54013, 715/265-4271.

JOBS

The Alaska Center for the Environment is looking for a General Manager for a recycling plant to open Sept. 1 in Anchorage, Alaska. Responsibilities would be all day-to-day operations of the recycling center, financial, employee and community relations. Qualifications include appropriate college degree plus 6 months recycling or business management experience. Applications should be in by July 1, but qualified applicants should phone after this date as the position may still be unfilled. Salary \$1000 to \$1500/mo. Contact: Paul Lowe, Executive Director, Alaska Center for the Environment, 1069 W. 6th Ave., Anchorage, AK 99501. 907/274-3621.

Special opportunity with a growing alternative magazine. Need one person to do business management, list maintenance, promotion, and ad program supervision. Also supervise fulfillment on auxiliary products and services. Salary equal to senior staff, grows with magazine. Experience important. For more details, contact Co-Op, Box 7293, Ann Arbor, MI 48107.



The 5th Annual National Organic Farmers Association Conference, "Essentials of a Native Agriculture," will run from August 17-19 in Lynden, Vermont. Many aspects of Biodynamic Agriculture, and of natural living as well, will be demonstrated at this event. Write: NOFA, Box 123, Hyde Park, VT 05655.

CORRECTIONS

No Nukes Strategy Conference Report: Readers, take note: The address we listed in our April issue for obtaining copies of the *National No Nukes Strategy Conference Report* is no longer deliverable. However, copies of this excellent networking tabloid can be obtained by writing to Peggy Bishop at the Nuclear Information and Resource Service (NIRS), 1536 Sixteenth St. N.W., Washington, DC 20036. Copies are \$2.00 each, postpaid.

The manual, *Build a Drain-Down Solar Water Heater*, reviewed in the May issue of *Rain*, does not use electric valves as we incorrectly stated.

*****Order Form*****

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JUNK FOOD

"Fast Foods Will Make You Sickly Quickly," April 1977 *Caveat Emptor*, \$1 from:

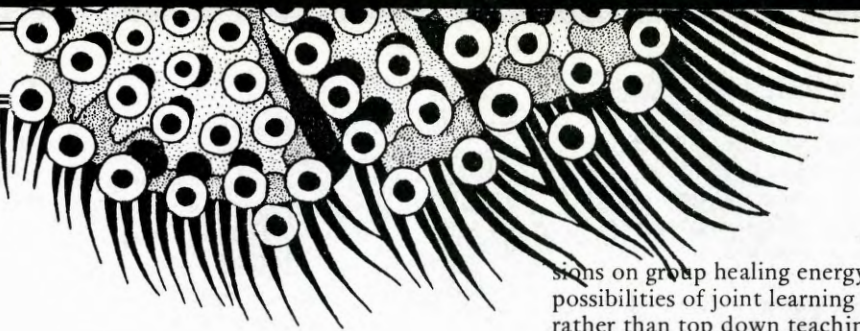
Caveat Emptor
620 Freeman St.
Orange, NJ 07050

"The moisture content alone in fast food restaurant hotdogs, hamburgers, fishburgers, french fries and fried chicken ranges from 44 to 62 percent, which almost qualifies them as beverages." And much more useful information on fast food's contribution to dental problems, mouth and gum diseases, high cholesterol levels, heart disease, diabetes, hypoglycemia, obesity, emotional problems and other maladies that plague modern America. For use in your local Fallen Arches campaign to ban franchise foods. —TB

"Hamburger's Last Stand," Peter Barry Chowka, *East West Journal*, June 1979, \$1.50 from:

EWJ
233 Harvard St.
Brookline, MA 02146

Only last November we were bemoaning and hoping (Nov. 1978 *Rain*, p. 3) that someone would pull together a good examination of the fast food business—laying out nutritional and merchandising deception, harmful economic impacts, etc. Well, Peter Barry Chowka has come through in fine fashion! His "Hamburger's Last Stand," focusing, of course, on McDonald's, should be xeroxed and given to every city council member and newspaper editor in a campaign to ban fast food franchises. McDonald's profits, employee harassment, financial misrepresentation, health hazards, nutritional questions, community impacts and resistance, and predictions from the finance world of big troubles ahead for the Big Mac. Get it,



fill in the missing pieces from the Nov. '78 *Rain*, and go to it. Peter, the next assignment we'll wish upon you is in consumer finance. Call us for details—and thanks! —TB

OUTLOOKS

New Age Blues: On the Politics of Consciousness, Michael Rossman, 1979, \$6.95 from:

E.P. Dutton
201 Park Ave.
New York, NY 10003

Here at last is a book of essays which begins to bridge the gaps between the *political* (how do we end the war, corporate oppression, etc.?) and the *personal* (how can I be healthy, happy and wise?). It even goes one step further into some eye-opening and long-needed discussions on serious psychic research. In some ways it is a depressing book. He makes a good case for the proclivity of our generation to search for gurus, whether Baba Ram Dass or Werner Erhardt, as a continuation of authoritarian patterns. He worries about the Defense Department using psychic phenomena (mind suggestion or even hordes of warlocks) for evil purposes—science fiction come true. I wish he'd take a closer look at some of the more positive aspects of integrated visions of the "New Age" which he touches upon in discus-

sions on group healing energy or the possibilities of joint learning with peers rather than top down teaching. Still, it's important for optimists like me to consider the seamier aspects of our hopes. There's much here and much to be built upon and to think about. —LdeM

The New Tyranny: How Nuclear Power Enslaves Us, by Robert Jungk, translated by Christopher Trump, 1979, 204 pp., \$10 from:

Grosset and Dunlap Inc.
51 Madison Ave.,
New York, NY 10010

A "super race" of humans who can tolerate doses of radiation; caloric sensors which can detect any warm-blooded body moving by it; devices that read voices like fingerprints; the use of mind altering drugs to prevent workers from sabotaging a power plant. The aforementioned techniques read like a scenario from a science fiction movie, but the unfortunate truth is that these methods, and others, exist today and soon may be employed in "protecting" nuclear power plants. Robert Jungk, noted historian and teacher from Germany, examines how the continued proliferation of nuclear power worldwide will decrease civil liberties and set up an authoritarian state much like the one envisioned in Orwell's *1984*. Although Jungk stresses that this society does not yet exist, he does document how the roots of such a system are forming today. A worldwide movement to put an end to this trend is advocated. *Highly recommended.* —YL

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